

plumbate was also prepared and appeared, from its crystalline form, to be isomorphous with the Na salt. The properties of plumbic acid are discussed from the colloidal point of view.

CC 6 (Inorganic Chemistry)

=> d his full

(FILE 'HOME' ENTERED AT 11:14:34 ON 17 JAN 2007)

FILE 'HCAPLUS' ENTERED AT 11:14:45 ON 17 JAN 2007

FILE 'STNGUIDE' ENTERED AT 11:14:53 ON 17 JAN 2007

FILE 'REGISTRY' ENTERED AT 11:15:21 ON 17 JAN 2007

E US2005-553451/APS

1 SEA ABB=ON PLU=ON US2005-553451/AP

D SCAN

FILE 'STNGUIDE' ENTERED AT 11:15:43 ON 17 JAN 2007

FILE 'REGISTRY' ENTERED AT 11:17:01 ON 17 JAN 2007

E P-HYDROXYBENZOIC ACID/CN

2 SEA ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN OR "P-HYDROXYBENZOIC ACID ANHYDRIDE"/CN)

D BROWSE

FILE 'REGISTRY' ENTERED AT 11:18:39 ON 17 JAN 2007

STR 61581-05-3

2 SEA FAM FULL L3

2643 SEA ABB=ON PLU=ON 99-96-7/CRN

1 SEA ABB=ON PLU=ON 61581-05-3/CRN

L7 2 SEA ABB=ON PLU=ON (L4 OR L6)

2646 SEA ABB=ON PLU=ON (L2 OR L4 OR L5 OR L6)

FILE 'HCAPLUS' ENTERED AT 11:20:25 ON 17 JAN 2007

L9 2 SEA ABB=ON PLU=ON L7

E P-HYDROXYBENZOIC ACID/CT

33 SEA ABB=ON PLU=ON P-HYDROXYBENZOIC ACID(3A)ANHYDRIDE?

L10 33 SEA ABB=ON PLU=ON P (3A) HYDROXYBENZOIC ACID(3A)ANHYDRIDE?

L11 35 SEA ABB=ON PLU=ON (L9 OR L10 OR L11)

L12 13 SEA ABB=ON PLU=ON L12 (1) (PREP OR RACT OR PROC) /RL

L13 E PRECIPITATION/CT

L14 E E7+ALL

3609 SEA ABB=ON PLU=ON PRECIPITATES/CT

L15 E ISOLATING/CT

1685761 SEA ABB=ON PLU=ON PRECIPITA? OR ISOLAT?

L16 35 SEA ABB=ON PLU=ON (L9 OR L10 OR L11 OR L12 OR L13)

L17 1 SEA ABB=ON PLU=ON L16 AND (L14 OR L15)

E TRANSITION TEMPERATURE/CT

E3+ALL

E E2+ALL

49418 SEA ABB=ON PLU=ON "GLASS TRANSITION TEMPERATURE"+OLD/CT

E PHASE TRANSITION TEMPERATURE/CT

E E3+ALL

70211 SEA ABB=ON PLU=ON "PHASE TRANSITION TEMPERATURE"+NT/CT

E SUPERCONDUCTING CRITICAL TEMPERATURE/CT

E E3+ALL

13203 SEA ABB=ON PLU=ON "SUPERCONDUCTING CRITICAL TEMPERATURE"+OLD/

CT

*STC STN
11/7/07
ms. haw 6/13/07*

E ET+ALL
6 SEA ABB=ON PLU=ON L16 AND (L18 OR L19 OR L20 OR L21)
7 SEA ABB=ON PLU=ON (L17 OR L22)
D RMIC

8 SEA ABB=ON PLU=ON (L23 OR L1)
36 SEA ABB=ON PLU=ON (L1 OR L16)
E PRECIPITATION/CT

E E7+ALL
25005 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)"+OLD, NT/CT
E PRECIPITATION/CT

E E8+ALL
25005 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)"+OLD, NT/CT
E PRECIPITATION/CT

E E6+ALL
133 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L) AFFINITY"+OLD
E PRECIPITATION (CHEMICAL) (L) AGENTS"+OLD/C

E E7+ALL
297 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L) AGENTS"+OLD/C
T E PRECIPITATION (CHEMICAL) (L) APP-/CT

E E8+ALL
1715 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L) APP."+OLD/CT
E PRECIPITATION (CHEMICAL) (L) CRYOGENIC/C/CT

E E7+ALL
77 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L) CRYOGENIC/C"+OL
D/CT

E PRECIPITATION (CHEMICAL) (L) ENTHALPY/CT
E E3+ALL
E E2+ALL

E E2+ALL
123 SEA ABB=ON PLU=ON "PRECIPITATION ENTHALPY"+OLD/CT
E PRECIPITATION (CHEMICAL) (L) KINETICS/CT

E E3+ALL
440 SEA ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L) KINETICS"+OLD
/CT

670864 SEA ABB=ON PLU=ON 2PRECIPITA?
0 SEA ABB=ON PLU=ON L16 AND (L26 OR L27 OR L28 OR L30
OR L31 OR L32 OR L33 OR L34)

L32 E PRECIPITATION (CHEMICAL) (L) KINETICS/CT
OR L34)

FILE 'MEDLINE, EMBASE, BIOSIS, CROIUD, DRUGU' ENTERED AT 11:29:25 ON 17 JAN 2007

L36 0 SEA ABB=ON PLU=ON L7
FILE 'HCAPLUS' ENTERED AT 11:29:44 ON 17 JAN 2007
17575 SEA ABB=ON PLU=ON L8
6688 SEA ABB=ON PLU=ON L8 (PREP OR PROC OR RACT)/RL

L37 951 SEA ABB=ON PLU=ON L38 AND (L14 OR L15 OR L18 OR L19 OR L20
OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33

L38 OR L34)

140 410 SEA ABB=ON PLU=ON L29 AND (L18 OR L19 OR L20 OR L21)
356 SEA ABB=ON PLU=ON L40 AND ?CRYSTA?
350 SEA ABB=ON PLU=ON L41 AND (?TEMPERATURE?)

143 342 SEA ABB=ON PLU=ON L42 AND ?TRANSITION?
69477 SEA ABB=ON PLU=ON ?CRYSTAL?(5A)?ACID?
98 SEA ABB=ON PLU=ON L43 AND L44

D RMIC

L46	6	SEA ABB=ON	PLU=ON	L43 AND ((CRYSTAL? (5A)?BENZOIC?)
	D	KWIC		
L47	86	SEA ABB=ON	PLU=ON	L37 AND ((CRYSTAL? (5A)?BENZOIC?)
L48	31	SEA ABB=ON	PLU=ON	L47 AND ((TEMPERATURE? OR ?TRANSITION?)
	D	KWIC		
L49	13	SEA ABB=ON	PLU=ON	L47 AND ((L14 OR L15 OR L18 OR L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L30 OR L31 OR L32 OR L3 OR L34)
	D	KWIC		
L50	20	SEA ABB=ON	PLU=ON	(L23 OR L46 OR L49)
L51	18	SEA ABB=ON	PLU=ON	(PY<2003 OR AY<2003 OR PRY<2003)
	D	KWIC	L50	
	D	KWIC	L50	5
L52	13	SEA ABB=ON	PLU=ON	L47 AND ?TRANSITION?
L53	23	SEA ABB=ON	PLU=ON	(L52 OR L50)
L54	2280	SEA ABB=ON	PLU=ON	L37 AND ((L14 OR L15 OR L18 OR L19 OR L20 OR L27 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L3 OR L34)
	D	KWIC		
L55	762	SEA ABB=ON	PLU=ON	L54 AND ?TRANSITION?
L56	34	SEA ABB=ON	PLU=ON	L55 AND ((L14 OR L15 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34)
	D	KWIC		
L57	896	SEA ABB=ON	PLU=ON	L54 AND ((TRANSITION? (5A)?TMP OR TEMP?)
L58	896	SEA ABB=ON	PLU=ON	L54 AND ((TRANSITION? (3A)?TMP OR TEMP?)
L59	142	SEA ABB=ON	PLU=ON	L58 AND ((L14 OR L15 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34)
	D	KWIC		
L60	18	SEA ABB=ON	PLU=ON	L59 AND ((L18 OR L19 OR L20 OR L21)
	D	KWIC		
	D	KWIC	5	
	D	KWIC	10	
	D	KWIC	L59	
	D	KWIC	L59	5
L61	721	SEA ABB=ON	PLU=ON	L54 AND ((TRANSITION? (3A)?TMP OR TEMP?)
L62	17	SEA ABB=ON	PLU=ON	L61 AND ((L14 OR L15 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34))
	D	KWIC		
	D	KWIC	7	
	D	KWIC	10	
	D	KWIC	10	
L63	56	SEA ABB=ON	PLU=ON	L54 AND ((TRANSITION? (5A)?BENZOIC?)
	D	KWIC		
	D	KWIC	2	
	D	KWIC	10	
	D	KWIC		
L64	54	SEA ABB=ON	PLU=ON	L63 AND (TEMP? OR TMP)
	D	KWIC		
L65	72	SEA ABB=ON	PLU=ON	(L60 OR L62 OR L63 OR L64)
L66	56	SEA ABB=ON	PLU=ON	L63 AND ((TRANSITION? (5A)?BENZOIC?)
L67	54	SEA ABB=ON	PLU=ON	(TEMP? OR TMP)
	D	KWIC		
L68	29	SEA ABB=ON	PLU=ON	L67 AND TRANSITION TEMP?
	D	KWIC		
	D	KWIC	10	
	D	KWIC	10	
	D	KWIC	4	
	D	KWIC	2	
	D	KWIC	10	
L69	50	SEA ABB=ON	PLU=ON	L67 AND ((PY<2003 OR AY<2003 OR PRY<2003))
L70	10	SEA ABB=ON	PLU=ON	L67 AND TRANSITION TEMP? (5A)?BENZOIC?
	D	KWIC		
	D	KWIC	4	
	D	KWIC	2	
	D	KWIC	10	
	D	KWIC	4	
L71	29	SEA ABB=ON	PLU=ON	(L68 OR L70)

L101 9 SEA ABB=ON PLU=ON L98 AND TRANSITION?/BIX, ABEK, BIEK, FT
D KWIC

L102 11 SEA ABB=ON PLU=ON (L100 OR L101)

FILE 'STNGUIDE' ENTERED AT 12:04:08 ON 17 JAN 2007

FILE 'HCAPLUS' ENTERED AT 13:12:20 ON 17 JAN 2007

E UENO R/AU
SEA ABB=ON PLU=ON ("UNO R"/AU OR "UNO RYUZO"/AU OR "UNO RYUZOH"/AU OR "UNO RYUZU"/AU OR "UNO RYZO"/AU)

E KITAYAMA M/AU
SEA ABB=ON PLU=ON ("KITAYAMA M"/AU OR "KITAYAMA MASAYA"/AU)

E IZUMICHI N/AU
SEA ABB=ON PLU=ON ("IZUMICHI N"/AU OR "IZUMICHI NOBUTAKA"/AU)

E KITAKA M/AU
SEA ABB=ON PLU=ON ("KITAKA M"/AU OR "KITAKA MASAHARU"/AU)

3 SEA ABB=ON PLU=ON L103 AND L104 AND L105 AND L106

48 SEA ABB=ON PLU=ON (L103 AND (L104 OR L105 OR L106)) OR (L104 AND (L105 OR L106)) OR (L105 AND L106)

12 SEA ABB=ON PLU=ON L106 AND L37

5 SEA ABB=ON PLU=ON L108 AND ?ANHYDRIDE?

18 SEA ABB=ON PLU=ON (L107 OR L109 OR L110)

48 SEA ABB=ON PLU=ON (L103 AND (L104 OR L106)) OR (L104 AND (L105 OR L106))

11 SEA ABB=ON PLU=ON (L104 AND (L105 OR L106))

3 SEA ABB=ON PLU=ON (L105 AND L106)

11 SEA ABB=ON PLU=ON (L112 AND (L113 OR L114)) OR (L113 AND L114)

25 SEA ABB=ON PLU=ON (L111 OR L115)

FILE 'HCAPLUS, MEDLINE, EMBASE, BIOSIS, DRUGU, WPIX' ENTERED AT 13:16:17
ON 17 JAN 2007

L117 1654 SEA ABB=ON PLU=ON UENO R?/AU
1251 SEA ABB=ON PLU=ON KITAYAMA M?/AU
L118 16 SEA ABB=ON PLU=ON IZUMICHI N?/AU
66 SEA ABB=ON PLU=ON KITAKA M?/AU
L120 7 SEA ABB=ON PLU=ON L117 AND L118 AND L119 AND L120
L121 62 SEA ABB=ON PLU=ON (L117 OR L118 OR L119 OR L120) AND (P
3(A) (HYDROXYBENZOIC OR SALICYLIC ACID))
L123 35 SEA ABB=ON PLU=ON (L117 OR L118 OR L119 OR L120) AND
ANHYDRIDE?
L124 92 SEA ABB=ON PLU=ON (L122 OR L123)
L125 2 SEA ABB=ON PLU=ON L124 AND TRANSITION?
FILE 'STNGUIDE' ENTERED AT 13:20:25 ON 17 JAN 2007

D QUE L116
D QUE L125
D QUE L121
D QUB L72
D QUE L102

FILE 'HCAPLUS, BIOSIS, WPIX' ENTERED AT 13:21:13 ON 17 JAN 2007
85 DUP REM L116 L121 L125 L72 L102 (9 DUPLICATES REMOVED)

ANSWERS '1-73' FROM FILE HCAPLUS

ANSWERS '75-85' FROM FILE WPIX

D IBIB ABS HITND RETABLE L126 1-73

D IBIB ABS L126 74

D ALI ABEO TECH L126 75-85

FILE HOME

FILE HCAPLUS

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FILE 'HCAPLUS' ENTERED AT 13:22:47 ON 17 JAN 2007

E ANHYDRIDES/CT

E E+ALL

E ANHYDRIDES/CT

E E+ALL

242800 SEA ABB=ON PLU=ON ?ANHYDRIDE?

261405 SEA ABB=ON PLU=ON (L127 OR L128)

25342 SEA ABB=ON PLU=ON L129 AND (L14 OR L15 OR L18 OR L19 OR L20

OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33

OR L34)

6814 SEA ABB=ON PLU=ON L130 AND (L18 OR L19 OR L20 OR L29 OR L30

80 SEA ABB=ON PLU=ON L131 AND (L26 OR L27 OR L28 OR L29 OR L30

OR L31 OR L32 OR L33 OR L34)

2 SEA ABB=ON PLU=ON L132 AND ?CRYSTAL?

16 SEA ABB=ON PLU=ON L132 AND ?CRYSTAL?

16 SEA ABB=ON PLU=ON (L133 OR L134)

D KWIC

D KWIC 2

75 SEA ABB=ON PLU=ON L133 AND TRANSITION? (3A) TMP OR TEMP?)

79 SEA ABB=ON PLU=ON L132 AND (TRANSITION? (3A) TMP OR TEMP?)

D KWIC

15 SEA ABB=ON PLU=ON L137 AND ?CRYSTAL?

D KWIC

L*** DEL 27419 S 2 CRYSTAL? (3A) L129

332 SEA ABB=ON PLU=ON L130 AND CRYSTAL? (3A) ANHYDRIDE?

74 SEA ABB=ON PLU=ON L139 AND (L18 OR L19 OR L20 OR L21)

2 SEA ABB=ON PLU=ON L140 AND (L26 OR L27 OR L28 OR L29 OR L30

OR L31 OR L32 OR L33 OR L34)

D KWIC

D KWIC L140

45 SEA ABB=ON PLU=ON L140 AND TRANSITION TEMP?

D KWIC

66 SEA ABB=ON PLU=ON L140 AND TEMPERATURE?

L143 66 SEA ABB=ON PLU=ON L140 AND ?TEMPERATURE?

L144 55 SEA ABB=ON PLU=ON (L143 OR L144) AND ?TRANSITION?

L145 55 SEA ABB=ON PLU=ON (L142 OR L145)

54 SEA ABB=ON PLU=ON L146 NOT (L72 OR L116)

D KWIC

37 SEA ABB=ON PLU=ON L147 (L) (PREP OR PROC OR RACT) / RL

54 SEA ABB=ON PLU=ON (L147 OR L148)

68 SEA ABB=ON PLU=ON (L149 OR L133 OR L141 OR L138)

L150 68 SEA ABB=ON PLU=ON L150 NOT (L72 OR L116)

55 SEA ABB=ON PLU=ON L151 AND (P<2003 OR AY<2003 OR PRY<2003)

D QUB L152

D IBIB ABS HITND RETABLE L152 TOT

strictly prohibited.

FILE COVERS 1907 - 17 Jan 2007 VOL 146 ISS 4
FILE LAST UPDATED: 16 Jan 2007 (20070116/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 12, 2007 (20070112/UP).

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by Infochem.

STRUCTURE FILE UPDATES: 16 JAN 2007 HIGHEST RN 917560-96-4
DICTIONARY FILE UPDATES: 16 JAN 2007 HIGHEST RN 917560-96-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting smartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/US/regprops.html>

FILE MEDLINE
FILE LAST UPDATED: 16 Jan 2007 (20070116/UP). FILE COVERS 1950 TO DATE.
All regular MEDLINE updates from November 15 to December 16 have been added to MEDLINE, along with 2007 Medical Subject Headings (MeSH(R)) and 2007 tree numbers.

The annual reload will be available in early 2007.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE EMBASE
FILE COVERS 1974 TO 17 Jan 2007 (20070117/ED)
EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1959 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNS) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 10 January 2007 (20070110/ED)

FILE CLOUD
FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CRS Registry Numbers for easy and accurate substance identification. Title, keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

FILE DRUGU
FILE LAST UPDATED: 12 JAN 2007
>>> DERVENT DRUG FILE (SUBSCRIBER) <<<

>>> FILE COVERS 1983 TO DATE <<<
>>> THESAURUS AVAILABLE IN /CT <<<

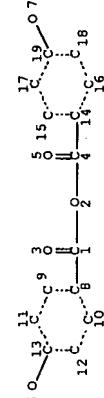
FILE WPIX
FILE LAST UPDATED: 15 JAN 2007 <20070115/UP>
MOST RECENT THOMSON SCIENTIFIC UPDATE: 200704 <200704/DS>
DERVENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE
>>> YOU ARE IN THE NEW AND ENHANCED DERVENT WORLD PATENTS INDEX <<<

>>> IPC Reform reclassification data for the backfile is being loaded into the database during the first half of January 2007.
There will not be any update date (UP) written for the reclassified documents, but they can be identified by 20060101/UPIC. <<<

FOR A COPY OF THE DERVENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf
FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
<http://scientific.thomson.com/support/patents/coverage/latestupdates/>
PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stdatabases/details/derpi_r.html and
http://scientific.thomson.com/media/scpdfl/derpi_r.pdf

>>> FOR DETAILS ON THE NEW AND ENHANCED DERVENT WORLD PATENTS INDEX
PLEASE SEE
http://www.stn-international.de/stdatabases/details/derpi_r.html <<<
>>> New and revised Manual Codes went live in Derwent World Patents Index To view the lists of new, revised and retired codes for both CPI and EPI, Please go to:

=> d que 1116;d que 1125;d que 1121;d que 1121;d que 172;d que 1102
 L2 2 SEA FILE=REGISTRY ABB=ON ("P-HYDROXYBENZOIC ACID"/CN)
 OR "P-HYDROXYBENZOIC ACID ANHYDRIDE"/CN)
 SFR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ELEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RINGS() ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE

- L4 2 SEA FILE=REGISTRY FAM FUL L3
 L5 2643 SEA FILE=REGISTRY ABB=ON PLU=ON 99-96-7/CRN
 L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 61581-05-3/CRN
 L8 2666 SEA FILE=REGISTRY ABB=ON PLU=ON (L2 OR L4 OR L5 OR L6)
 L37 1755 SEA FILE=HCAPLUS ABB=ON PLU=ON L8
 L103 301 SEA FILE=HCAPLUS ABB=ON PLU=ON ("UENO RV"/AU OR "UENO
 RYUZO"/AU OR "UENO RYUZOH"/AU OR "UENO
 RYUZO"/AU)
 L104 93 SEA FILE=HCAPLUS ABB=ON PLU=ON ("KITAYAMA M"/AU OR "KITAYAMA
 NAYA"/AU)
 L105 10 SEA FILE=HCAPLUS ABB=ON PLU=ON ("IZUMICHI N"/AU OR "IZUMICHI
 NOBUTAKA"/AU)
 L106 6 SEA FILE=HCAPLUS ABB=ON PLU=ON ("KITTAKA M"/AU OR "KITTAKA
 NASHABU"/AU)
 L107 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L103 AND L104 AND L105 AND
 L106
 L108 48 SEA FILE=HCAPLUS ABB=ON PLU=ON (L103 AND (L104 OR L105 OR
 L106)) OR ((L104 AND (L105 OR L106)) OR (L105 AND L106))
 L109 12 SEA FILE=HCAPLUS ABB=ON PLU=ON L108 AND L37
 L110 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L108 AND 2ANHYDRIDE?
 L111 18 SEA FILE=HCAPLUS ABB=ON PLU=ON (L107 OR L109 OR L110)
 L112 48 SEA FILE=HCAPLUS ABB=ON PLU=ON (L103 AND (L104 OR L105 OR
 L106))
 L113 11 SEA FILE=HCAPLUS ABB=ON PLU=ON (L104 AND (L105 OR L106))
 L114 3 SEA FILE=HCAPLUS ABB=ON PLU=ON (L105 AND L106)
 L115 11 SEA FILE=HCAPLUS ABB=ON PLU=ON (L112 AND (L113 OR L114)) OR
 (L113 AND L114)
 L116 25 SEA FILE=HCAPLUS ABB=ON PLU=ON (L111 OR L115)

L117 1654 SEA UENO R2/AU
 L118 1251 SEA KITAYANA M/AU
 L119 16 SEA IZUMICHI N/AU
 L120 66 SEA KITTAKA M/AU

L121 7 SEA L117 AND L118 AND L119 AND L120

L122 62 SEA (L117 OR L118 OR L119 OR L120) AND (P (3A) (HYDROXYBENZOIC
 OR SALICYLIC ACID))

L123 35 SEA (L117 OR L118 OR L119 OR L120) AND ANHYDRIDE?

L124 92 SEA (L122 OR L123)

L125 .2 SEA L124 AND TRANSITION?

L126 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN)

STR

L127 1654 SEA UENO R2/AU
 L128 1251 SEA KITAYANA M/AU
 L129 16 SEA IZUMICHI N/AU
 L130 66 SEA KITTAKA M/AU
 L131 7 SEA L117 AND L118 AND L119 AND L120

L132 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN)

STR

L133 6 O 13 C 11 C 9 3 5 15 C 17 C 19 O 7
 12 C 10 C 8 C 7 C 1 C 2 C 4 C 14 C 16 C 18 C 15 C 17 C 19 O 7
 16 C 14 C 13 C 12 C 11 C 10 C 9 C 8 C 7 C 6 O

L134 1654 SEA UENO R2/AU
 L135 1251 SEA KITAYANA M/AU
 L136 16 SEA IZUMICHI N/AU
 L137 66 SEA KITTAKA M/AU
 L138 7 SEA L117 AND L118 AND L119 AND L120

L139 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN)

STR

L140 6 O 13 C 11 C 9 3 5 15 C 17 C 19 O 7
 12 C 10 C 8 C 7 C 1 C 2 C 4 C 14 C 16 C 18 C 15 C 17 C 19 O 7
 16 C 14 C 13 C 12 C 11 C 10 C 9 C 8 C 7 C 6 O

L141 1654 SEA UENO R2/AU
 L142 1251 SEA KITAYANA M/AU
 L143 16 SEA IZUMICHI N/AU
 L144 66 SEA KITTAKA M/AU
 L145 7 SEA L117 AND L118 AND L119 AND L120

L146 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN)

STR

L147 6 O 13 C 11 C 9 3 5 15 C 17 C 19 O 7
 12 C 10 C 8 C 7 C 1 C 2 C 4 C 14 C 16 C 18 C 15 C 17 C 19 O 7
 16 C 14 C 13 C 12 C 11 C 10 C 9 C 8 C 7 C 6 O

L148 1654 SEA UENO R2/AU
 L149 1251 SEA KITAYANA M/AU
 L150 16 SEA IZUMICHI N/AU
 L151 66 SEA KITTAKA M/AU
 L152 7 SEA L117 AND L118 AND L119 AND L120

L153 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN)

STR

L154 6 O 13 C 11 C 9 3 5 15 C 17 C 19 O 7
 12 C 10 C 8 C 7 C 1 C 2 C 4 C 14 C 16 C 18 C 15 C 17 C 19 O 7
 16 C 14 C 13 C 12 C 11 C 10 C 9 C 8 C 7 C 6 O

L155 1654 SEA UENO R2/AU
 L156 1251 SEA KITAYANA M/AU
 L157 16 SEA IZUMICHI N/AU
 L158 66 SEA KITTAKA M/AU
 L159 7 SEA L117 AND L118 AND L119 AND L120

L160 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID"/CN)

STR

L161 6 O 13 C 11 C 9 3 5 15 C 17 C 19 O 7
 12 C 10 C 8 C 7 C 1 C 2 C 4 C 14 C 16 C 18 C 15 C 17 C 19 O 7
 16 C 14 C 13 C 12 C 11 C 10 C 9 C 8 C 7 C 6 O

L162 1654 SEA UENO R2/AU
 L163 1251 SEA KITAYANA M/AU
 L164 16 SEA IZUMICHI N/AU
 L165 66 SEA KITTAKA M/AU
 L166 7 SEA L117 AND L118 AND L119 AND L120

L167 2 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND (L14 OR L15)

L168 1654 SEA UENO R2/AU
 L169 1251 SEA KITAYANA M/AU
 L170 16 SEA IZUMICHI N/AU
 L171 66 SEA KITTAKA M/AU
 L172 7 SEA L117 AND L118 AND L119 AND L120

L173 2 SEA FILE=REGISTRY ABB=ON PLU=ON "GLASS TRANSITION TEMPERATURE"

L174 1654 SEA UENO R2/AU
 L175 1251 SEA KITAYANA M/AU
 L176 16 SEA IZUMICHI N/AU
 L177 66 SEA KITTAKA M/AU
 L178 7 SEA L117 AND L118 AND L119 AND L120

L179 2 SEA FILE=REGISTRY ABB=ON PLU=ON "PHASE TRANSITION TEMPERATURE"

L180 1654 SEA UENO R2/AU
 L181 1251 SEA KITAYANA M/AU
 L182 16 SEA IZUMICHI N/AU
 L183 66 SEA KITTAKA M/AU
 L184 7 SEA L117 AND L118 AND L119 AND L120

L185 2 SEA FILE=REGISTRY ABB=ON PLU=ON "SUPERCONDUCTING CRITICAL

192124 SEA FILE=HCAPIUS ABB=ON PLU=ON ?TRANSITION? (5A) TEMPERATURE?
 6 SEA FILE=HCAPIUS ABB=ON PLU=ON L1.6 AND (L18 OR L19 OR L20 OR
 L21)
 7 SEA FILE=HCAPIUS ABB=ON PLU=ON (L17 OR L22)
 25005 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)"+OLD/C
 ,NT/CT
 25005 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)"+OLD
 ,NT/CT
 133 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L)
 AFFINITY"+OLD/CT
 297 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L)
 AGENTS"+OLD/CT
 1715 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L)
 APP. "+OLD/CT
 77 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L)
 CRYOGENIC"+OLD/CT
 123 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION ENTHALPY"+OLD/C
 T
 440 SEA FILE=HCAPIUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L)
 KINETICS"+OLD/CT
 670864 SEA FILE=HCAPIUS ABB=ON PLU=ON ?PRECIPITAT?
 37 1755 SEA FILE=HCAPIUS ABB=ON PLU=ON L8
 6688 SEA FILE=HCAPIUS ABB=ON PLU=ON L8 (L) (PREP OR PROC OR
 RACTY / RL
 951 SEA FILE=HCAPIUS ABB=ON PLU=ON L38 AND (L14 OR L15 OR L18 OR
 L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
 L32 OR L33 OR L34)
 410 SEA FILE=HCAPIUS ABB=ON PLU=ON L39 AND (L18 OR L19 OR L20 OR
 L21)
 356 SEA FILE=HCAPIUS ABB=ON PLU=ON L40 AND ?CRYSTAL?
 350 SEA FILE=HCAPIUS ABB=ON PLU=ON L41 AND ?TEMPERATURE?
 342 SEA FILE=HCAPIUS ABB=ON PLU=ON L42 AND ?TRANSITION?
 6 SEA FILE=HCAPIUS ABB=ON PLU=ON L43 AND (CRYSTAL? (5A) BENZOIC?)
 L47
 86 SEA FILE=HCAPIUS ABB=ON PLU=ON L37 AND (CRYSTAL? (5A) BENZOIC?)
 L49
 13 SEA FILE=HCAPIUS ABB=ON PLU=ON L47 AND (L14 OR L15 OR L18 OR
 L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
 L32 OR L33 OR L34)
 20 SEA FILE=HCAPIUS ABB=ON PLU=ON (L23 OR L46 OR L49)
 13 SEA FILE=HCAPIUS ABB=ON PLU=ON L47 AND ?TRANSITION?
 23 SEA FILE=HCAPIUS ABB=ON PLU=ON (L52 OR L50)
 2280 SEA FILE=HCAPIUS ABB=ON PLU=ON L37 AND (L14 OR L15 OR L18 OR
 L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
 L32 OR L33 OR L34)
 56 SEA FILE=HCAPIUS ABB=ON PLU=ON L54 AND (TRANSITION (5A) BENZOI
 C?)
 56 SEA FILE=HCAPIUS ABB=ON PLU=ON L63 AND (TRANSITION (5A) BENZOI
 C?)
 54 SEA FILE=HCAPIUS ABB=ON PLU=ON L66 AND (TEMP? OR TMP)
 29 SEA FILE=HCAPIUS ABB=ON PLU=ON L67 AND TRANSITION TEMP?
 10 SEA FILE=HCAPIUS ABB=ON PLU=ON L67 AND TRANSITION TEMP? (5A) ?B
 ENZOIC?
 29 SEA FILE=HCAPIUS ABB=ON PLU=ON (L68 OR L70)
 49 SEA FILE=HCAPIUS ABB=ON PLU=ON (L53 OR L71)

	"P-HYDROXYBENZOIC ACID 2-HEXYL DECYL ESTER"/CN OR "P-HYDROXYBENZOIC ACID HYDRAZIDE"/CN OR "P-HYDROXYBENZOIC-ACID-ESTER-SLUCOSIDE/CN"	RAC00J1 / D0N	479 SEA FILE=WPIX ABB=ON PLU=ON (R00693 - R18860 OR RABIC2 OR
L91	0 SEA FILE=WPIX ABB=ON PLU=ON (5683-0-0-0 OR 1194-01-0-0 OR		
L92	76300B-1-0-0 OR 804700-0-0-0) DCRE		
L93	13 SEA FILE=WPIX ABB=ON PLU=ON P/BIX, ABEX, BIEK, TT (3A) HYDROXYBENZOIC ACID/BIX, ABEX, BIEK, TT (3A) ANHYDRIDES?/BIX, ABEX, BIEK, TT		
L94	2037 SEA FILE=WPIX ABB=ON PLU=ON P/BIX, ABEX, BIEK, TT (3A) (HYDROXYBENZOIC?/BIX, ABEX, BIEK, TT OR SALICYLIC ACID?/BIX, ABEX, BIEK, TT)		
L95	192 SEA FILE=WPIX ABB=ON PLU=ON PARBEN/BIX, ABEX, BIEK, TT (2A) ACID/ BIX, ABEX, BIEK, TT		
L96	2546 SEA FILE=WPIX ABB=ON PLU=ON (L90 OR L91 OR L92 OR L93 OR L94 OR L95)		
L97	734 SEA FILE=WPIX ABB=ON PLU=ON 196 AND (TRANSITION?/BIX, ABEX, BIEK, TT (3A) TRP/BIX, ABEX, BIEK, TT OR TEMP?/BIX, ABEX, BIEK, TT)		
L98	71 SEA FILE=WPIX ABB=ON PLU=ON 197 AND (PRECIPIT?/BIX, ABEX, BIEK, TT OR ISOLAT?/BIX, ABEX, BIEK, TT)		
L100	2 SEA FILE=WPIX ABB=ON PLU=ON L97 AND TRANSITION TEMP?/BIX, ABEX ,BIEK, TT (SA BENZOIC?/BIX, ABEX, BIEK, TT		
L101	9 SEA FILE=WPIX ABB=ON PLU=ON L98 AND TRANSITION?/BIX, ABEX, BIEK ,TT		
L102	11 SEA FILE=WPIX ABB=ON PLU=ON (L100 OR L101)		
	=> dup rem 1116.1121.1125.1172.1102		
	FILE 'HCAPUS' ENTERED AT 13:21:13 ON 17 JAN 2007		
	USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.		
	PLEASE SEE "HELP USAGENTS" FOR DETAILS.		
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	PROCESSING COMPLETED FOR L121		
	PROCESSING COMPLETED FOR L125		
	PROCESSING COMPLETED FOR L172		
L126	85 DUP REM L116 L121 L125 L172 L102 (9 DUPLICATES REMOVED)		
	ANSWERS '1-73' FROM FILE HCPLUS		
	ANSWER '7' FROM FILE BIOSIS		
	ANSWERS '75-85' FROM FILE WPIX		
	=> d ibib abs hitind rectable 1126.1-73;d ibib abs 1126.74;d all abeq tech 1126.7		
85			
L126	ANSWER 1 OF 85	HCPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1	
	ACCESSION NUMBER: 2004:902327 HCPLUS Full-text		
	DOCUMENT NUMBER: 141:381390		
	TITLE: Process for the preparation of anhydrous P-hydroxybenzoic acid crystals		
	INVENTOR(S): Ueda, Ryozi; Kitayama, Katsuya; Iwamichi, Nobutaka; Kitaoka, Masaharu		
	PATENT ASSIGNEE(S): Kansha Ueno Seisaku Oyo Kenkyujo, Japan		
	SOURCE: PCT Int. Appl., 24 pp.		

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001030737	A1	20010503	WO 2000-JP7260	200001019
W: CA, CN, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2356328	A1	20010503	CA 2000-2356928	200001019
EP 1142861	A1	20011010	EP 2000-969880	200001019
EP 1142861	B1	20060614		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 369714	B2	20050921	JP 2001-533094	200001019
AT 329835	T	20060715	AT 2000-969880	200001019
TW 524797	B	20030221	TW 2000-89122216	20001023
US 6562998	E1	20030513	US 2001-859143	20010626
PRIORITY APPN. INFO.:			JP 1999-303833	A 19991026
WO 2000-JP7260			WO 2000-JP7260	W 200001019

AB This document discloses granules of 2-hydroxynaphthalene-3-carboxylic acid, characterized as having an average particle diameter of 150 μm or more and a hardness of 70 g to 3000 g, and a method for preparing said granules, characterized as comprising subjecting a powder of 2-hydroxynaphthalene-3-carboxylic acid to dry compression to give a formed product, crushing the product and classifying the crushed product. The title compound is an intermediate for dyes. The granules of 2-hydroxynaphthalene-3-carboxylic acid is significantly reduced in scattering property.

IC	ICM CO/CO55-11	ICS C07C031-00	CC 41-9 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitzers)

RETABLE

Referenced Author (RAU)	Year (RAU)	VOL (RAU)	PG (RAU)	Referenced Work (RWK)	Referenced File (RWK)	Referenced Work (RWK)	Referenced File (RWK)
Daiichi Chemical Industr	1995						
Kabushiki Kaisha Ueno Si				JP 1143462 A		JP 1143462 A	
Kabushiki Kaisha Ueno Si				US 4239113 A		US 4239113 A	
Kabushiki Kaisha Ueno Si				JP 5470257 A		JP 5470257 A	
Kabushiki Kaisha Ueno Si	1994			GB 2000090 A		GB 2000090 A	
Kabushiki Kaisha Ueno Si	1986			JP 5916841 A		JP 5916841 A	
Kabushiki Kaisha Ueno Si	1993			JP 61212533 A		JP 61212533 A	
Kabushiki Kaisha Ueno Si	2000			JP 0024862 A		JP 0024862 A	
				IWO 0068177 A1		IWO 0068177 A1	

1.126 ANSWER 4 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 140636065 HCAPLUS Full-text
DOCUMENT NUMBER: 145:111227

TITLE: Phase equilibria and thermodynamics of

AUTHOR(S): Nordström, Fredrik L.; Rasmussen, Åke C.
CORPORATE SOURCE: Royal Institute of Technology, Stockholm, SE-100 44, Sweden.
SOURCE: Journal of Pharmaceutical Sciences (2006), 95 (4), 74-160
CODEN: JPMSE; ISSN: 0022-3549
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: English
LANGUAGE:

1.126 ANSWER 5 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 145:111227

TITLE: Phase equilibria and thermodynamics of

AUTHOR(S): Nordström, Fredrik L.; Rasmussen, Åke C.
CORPORATE SOURCE: Royal Institute of Technology, Stockholm, SE-100 44, Sweden.
SOURCE: Journal of Pharmaceutical Sciences (2006), 95 (4), 74-160
CODEN: JPMSE; ISSN: 0022-3549
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: English
LANGUAGE:

RETABLE	Referenced Author (RAU)	Year (RAU)	VOL (RAU)	PG (RAU)	Referenced Work (RWK)	Referenced File (RWK)	Referenced Work (RWK)	Referenced File (RWK)
Burger, A	1997	II	1259	1	Mikrochim Acta (Wien)			
Colapietro, M	1997	III	2177	1	Acta Cryst			
Ebisuzaki, Y	1997	IV	835	1	HCAPLUS			
Bring, M	2004	49	6659	1	J Chem Phys			
Fukuyama, K	1973	46	486	1	J Chem Eng Data			
Giron, D	1995	46	804	1	Bull Chem Soc Japan			
Gu, C	2001	90	248	1	Thermochimica Acta			
Heath, E	1992	48	1277	1	J Pharm Sci			
Hollenbeck, R	1998	69	1960	1	Acta Cryst C			
Kuriuki, B	2000	39	1241	1	J Pharm Sci			
Manzo, R	1999	79	1109	1	Angew Chem Int Ed			
					HCAPLUS			
					HCAPLUS			
					HCAPLUS			
					HCAPLUS			

1.126 ANSWER 5 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 145:111227

TITLE: Aromatic liquid-crystal polyester and resin

AUTHOR(S): Ueno, Ryozo; Kitayama, Masaya;

CORPORATE SOURCE: Kabushiki Kaisha Ueno Seliaku Oyo Kenkyūjo, Japan

SOURCE: PCT Int. Appl., 24 PP.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

1.126 ANSWER 5 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1405324211 HCAPLUS Full-text

TITLE: Aromatic liquid-crystal polyester and resin

AUTHOR(S): Ueno, Ryozo; Kitayama, Masaya;

CORPORATE SOURCE: Kabushiki Kaisha Ueno Seliaku Oyo Kenkyūjo, Japan

SOURCE: PCT Int. Appl., 24 PP.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005033177	A1	20050414	WO 2004-JP14266	20040929
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DR, DM, DZ, EC, ED, EG, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, LZ, LR, LS, LT, LV, MA, MD, MG, MN, MK, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SI, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, RW: BW, GH, GM, KE, LS, MN, MZ, NA, SD, SE, SZ, TZ, UG, ZM, AM, AZ, BY, KG, RD, RU, TJ, CH, BE, BG, CH, CI, CZ, DE, DR, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, SN, TD, TG	A1	20050421		
JP 2005105232	A	20060614	EP 2004-786332	20040929
EP 1669387	R: AI, BE, CH, DE, DR, ES, FR, GB, GR, IT, LU, NL, SE, MC, PI, IE, SI, FI, RO, CT, TR, BG, CZ, EE, HU, PL, SK, A1	20070103	CN 2004-80035956	20040929
PRIORITY APPN. INFO.: US 2007010647	A1	20070111	US 2006-574472	20040929
GI			JP 2003-344384	A
			WO 2004-JP14266	W



AB A liquid-crystal polyester resin comprising repeating units represented by I, II, $(-\text{O}-\text{Ar}_2-\text{O})_r$ (III), $(-\text{O}-\text{Ar}_2-\text{CO}-\text{O})_s$ (IV), ($\text{Ar}_1-\text{R}_2=\text{aromatic groups}$, $0.4 \leq p/q \leq 2.0$, $2 \leq r \leq 15$, $p+q+r+s = 100$, $35 \leq s \leq 48$) has a m.p. of 190-250°C, and the liquid-crystal polyester resin is processable at low temps. and has excellent mech. properties. Also provided is a resin composition and products produced from the above liquid crystal polyester and fillers or reinforcing materials. Thus, an aromatic liquid crystal polyester prepared from 6-hydroxy-2-naphthoic acid, p-hydroxybenzoic acid, hydroquinone, and terephthalic acid.

IC ICM C08G06/60

IC S08L06/00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-references(s): 38, 75

IT 90967-43-4P 849149-38-8P 849149-39-9P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PRBP (Preparation); USES (Uses) (aromatic liquid-crystal polyester and resin composition)

RETABLE

Referenced Author (RAU)	1 Year (RPA)	VOL (RPG)	1 Referenced Work (RWK)	1 Referenced	File
Mitsubishi Petrochemicals Co Ltd	1994		JP 06-329775 A	IHCAPLUS	
Polyplastics Co Ltd	1993		JP 05-9277 A	IHCAPLUS	
Polyplastics Co Ltd	1993		US 5179192 A	IHCAPLUS	
Unitika Ltd	1995		JP 07-207011 A	IHCAPLUS	



AB	An aminoacarbonyl naphthol derivative represented by the formula (I) [wherein Y1 and Y2 represent a group selected from the group consisting of
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L126 ANSWER 6 OF 85	HCAPIUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 142-197705	HCAPIUS Full-text
TITLE: Preparation of (aminocarbonyl)naphthol derivative, and method for producing cyanonaphthol derivative, and method for producing them	
INVENTOR(S): Tano, Ryozo; Kitayama, Masaya; Wakamori, Hiroyuki; Nishiaki, Miwa; Tanikawa, Katsunori	
PATENT ASSIGNEE(S): Kabushiki Kaisha Oyo Seiyaku Oyo Kenkyujo, Japan	
SOURCE: PatInt Appl., 72 pp.	
DOCUMENT TYPE: CODEN: PIXDZ	
LANGUAGE: Patent	
FAMILY ACC. NUM. COUNT: 1	
PATENT INFORMATION:	
PATENT NO.:	
PATENT DATE:	
APPLICATION NO.:	
DATE:	

WO 2004-071014 B2	CA, CH, GD,	
WO 20050210 A1	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GE, GH, GR, HR, ID, IL, IN, IS, JP, KG, KR, LZ, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, RW: BW, GH, GM, KE, LS, MW, NZ, SD, SL, SZ, TZ,UG, AZ, BY, KS, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CL, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
WO 2005012231 A1		
WO 20060102 A1		
WO 20060914 A1		
PRIORITY APPLN. INFO.:		

EP 2004-748169 B1	CH, DE, DK, ES, FR, GR, GR, IT, LU, NL, SE, MC, PT, R: AT, BE, CH, DE, DK, ES, FR, GR, GR, IT, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, CN 2004-80027967 A
EP 20060503 A1	
EP 1652337 A1	
EP 20060503 A1	
PRIORITY APPLN. INFO.:	

OTHER SOURCE(S): G1

MARPAT 142:197705

20040727

EP 2004-748169

20040727

EP 20060503

20060127

US 2006-366182

20030731

JP 2003-283894

A 20040204

WO 2004-071014

20040727

W

aminocarbonyl groups, carbonyl groups, and groups represented by the formulas $(\text{CONH})_n\text{X}_1$, $-\text{CO}-\text{O}-\text{X}_2$, and Q_1 ; and at least one of Y_1 and Y_2 is an aminocarbonyl group, wherein $n = 1, 2$; $\text{X}_1 = \text{Cl}-\text{I}$ (un)substituted and optionally branched aliphatic group, optionally possessing unsatd. bonds, (un)substituted heterocycl1 possessing unsatd. bonds, (un)substituted aromatic group, (un)substituted heterocycl1 possessing conjugated double bonds; $\text{X}_2 = \text{Cl}-\text{I}$ (un)substituted and optionally branched aliphatic group, optionally possessing unsatd. bonds; the ring A = (un)substituted aromatic group, (un)substituted heterocycl1 possessing conjugated double bonds] is prepared by amidation of the corresponding hydroxynaphthalene carboxylic acid derivative. A novel cyanonaphthalene derivative represented by the formula (II) [Y_7 and Y_8 independently represent a group selected from the group consisting of cyano group, groups represented by the formulas $-(\text{CONH})_n\text{X}_1$, $-\text{CO}-\text{O}-\text{X}_2$, and Q_1 , carbonyl group, and aminocarbonyl group; and at least one of Y_7 and Y_8 is a cyano group] or salts thereof is prepared by treating the (aminocarbonyl)naphthal derivative with POCl_3 for converting the aminocarbonyl group into the cyano group. Thus, 4.6 g 2-methoxy-3-(phenylaminocarbonyl)naphthalene-6-carboxylic acid was suspended in 45 g THF, treated with 3.6 g SOCl_2 and allowed to react at 45° for 1 h, followed by distilling off excess SOCl_2 together with the solvent to give a residue (acid chloride). The residue was dissolved in 50 g THF and warmed to 45°, followed by blowing NH_3 (g) into the solution, and the resulting mixture was allowed to react for 1 h to give, after filtration of the precipitated crystals, 3.0 g 2-methoxy-3-(phenylaminocarbonyl)naphthalene-6-carboxamide (III). III (3.0 g) was suspended in 40 g 1,2-dichlorobenzene, treated with 1.0 g PbCl_3 allowed to react at 140° for 1 h, cooled to 80°, treated with 50 g H_2O , thoroughly stirred, to give, after filtration of the precipitated crystals, washing with MeOH , and drying, 1.8 g 2-methoxy-3-(phenylaminocarbonyl)-1-(phenylaminocarbonyl)-1-oxo-2-oxindole.

Cyanophosphorus as a white powder.								
IC	ICM	C07C2-35--66	Cyanophosphorus as a white powder.					
IC	ICS	C07C255--53; C07C255--55; C07C255--57; C07C255--59; C07C255--60	Cyanophosphorus as a white powder.					
CC	25--24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)							
Section cross-references(s): 28								
IT	74-88-4, Methyl Iodide, Reactions	108-24-7, Acetic anhydride						
	131-07-5, 2-Aminobenzenothiol	7664-41-7, Ammonia, reactions						
	183963-27-1	213673-77-9	374729-40-5	838873-25-9				
	838873-26-0	838873-27-1	838873-28-2	838873-29-3	838873-30-6	838873-35-1		
	838873-36-2	838873-32-8	838873-33-9	838873-34-0	838873-39-5	838873-41-9		
	RL: RCT (Reactant or reagent)	(preparation of (aminocarbonyl)naphthol derivative by amidation of carbonylnaphthol derivative and its conversion into cyanonaphthol derivative by dehydration with phosphorus oxychloride)						
Referenced Author (RAU)	Year (R/PY)	VOL (R/VL)	PG (R/PG)	Referenced Work (R/WK)	File	Referenced		
Sao, Y	2001	44	2889	Journal of Medicinal HCAPUS				
Kabushiki Kaisha Ueno	1967			IUS 3335168 A		HCAPUS		
Kabushiki Kaisha Ueno	Si1996			IUS 5786523 A		HCAPUS		
Kabushiki Kaisha Ueno	Si1996			IUS 5847233 A		HCAPUS		
Kabushiki Kaisha Ueno	Si1996			IEP 768585 A1		HCAPUS		
Kabushiki Kaisha Ueno	Si1996			IWO 9621366 A1		HCAPUS		
Kabushiki Kaisha Ueno	Si1998			IUS 6072042 A		HCAPUS		
Kabushiki Kaisha Ueno	Si1998			IEP 882705 A1		HCAPUS		
Kabushiki Kaisha Ueno	Si1998			IWO 9816498 A1		HCAPUS		
Kabushiki Kaisha Ueno	Si2000			IWO 0068178 A1		HCAPUS		
Kabushiki Kaisha Ueno	Si2000			IEP 1095930 A1		HCAPUS		
Kabushiki Kaisha Ueno	Si2000			US 6224924 B1		HCAPUS		

DETERMINABLE

Referenced Author (RAU)	Year (RBY)	VOL (RVL)	PG (RPG)	Referenced Work (RMW)	Referenced File File
Sao, Y	12001	44	2869	Journal of Medicinal ICAPLUS	ICAPLUS
Interchemical Corp	11996			IUS 3335168 A	ICAPLUS
Kabushiki Kaisha Ueno	11996			IUS 5766523 A	ICAPLUS
Kabushiki Kaisha Ueno	11996			IUS 5847233 A	ICAPLUS
Kabushiki Kaisha Ueno	11996			IP 765839 A	ICAPLUS
Kabushiki Kaisha Ueno	11996			IWO 9632266 AI	ICAPLUS
Kabushiki Kaisha Ueno	11998			IUS 6072042 A	ICAPLUS
Kabushiki Kaisha Ueno	11998			IUS 882705 AI	ICAPLUS
Kabushiki Kaisha Ueno	11998			IWO 9816498 AI	ICAPLUS
Kabushiki Kaisha Ueno	12000	1		IWO 0068178 AI	ICAPLUS
Kabushiki Kaisha Ueno	12000	1		IEP 105530 AI	ICAPLUS
Kabushiki Kaisha Ueno	12000	1		IUS 628424 B1	ICAPLUS

(CONH)n-X1, -CO-O-X2, and Q1; and at least one of Y1 and Y2 is an aminocarbonyl group, wherein n = 1, 2; X1 = Cl-20 (un)substituted and optionally branched aliphatic group, optionally possessing unsaid bonds, (un) substituted aromatic group, (un)substituted heterocyclic group, possessing conjugated double bonds; X2 = Cl-20 (un)substituted and optionally branched aliphatic group, optionally possessing unsaid bonds; the ring A = (un) substituted aromatic group, (un)substituted heterocyclic group, possessing conjugated double bonds) is prepared by amidation of the corresponding hydroxynaphthalene-carboxylic acid derivative. A novel cyanonaphthalene derivative represented by the formula (II) (Y7 and Y8 independently represent a group selected from the group consisting of cyano group, groups represented by the formulas - (CONH)n-X1, -CO-O-X2, and Q1, carbonyl group, and aminocarbonyl group; and at least one of Y7 and Y8 is a cyano group) or salts thereof is prepared by treating the (aminocarbonyl)naphthalen derivative with POCl3 for converting the aminocarbonyl group into the cyano group. Thus, 4.6 g 2-methoxy-3-(phenylamino-carbonyl)naphthalene-6-carboxylic acid was suspended in 3.6 g SOCl2 and allowed to react at 45° for 1 h, followed by distilling off excess SOCl2 together with the solvent to give a residue (acid chloride). The residue was dissolved in 50 g THF and warmed to 45°, followed by blowing NH3(g) into the solution, and the resulting mixture was allowed to react for 1 h to give, after filtration of the precipitated crystals, 3.0 g 2-methoxy-3-(phenylamino-carbonyl)naphthalene-6-carboxamide (III). III (3.0 g) was suspended in 40 g 2-dichlorobenzene, treated with 11.0 g POCl3 allowed to react at 140° for 1 h, cooled to 80°, treated with 50 (benzyl)aminocarbonyl-1,6'-dianhydro- β -D-glucopyranose, washed with MeOH, and drying, 1.8 g 2-methoxy-3-

L126 ANSWER 7 OF 85: HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:428282 HCAPLUS Full-text
DOCUMENT NUMBER: 142:46477
TITLE: Liquid crystalline polyester compositions with good
antifungal properties and mechanical strength, their
manufacture, and moldings using them
INVENTOR(S): *Ueda, Ryuzo; Kitayama, Masaya;
Kato, Hiroyuki; Saito, Shoji*

PATENT INFORMATION:						
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
JP 2005125520	A	20050519	JP 2003-361956	20031022		
			JP 2003-361956	20031022		
AB	The compns., useful for crossflow fans of air conditioners, contain liquid crystalline polyesters with m.p. 200-290° (measured by DSC) and 0.01-10 phr 2-p-hydroxybenzoates. Thus, mixing hydroquinone-p'-hydroxybenzoic acid-6-hydroxy-2-naphthalic acid-terephthalic acid copolymer with m.P. 218°, 0.1 phr p-hydroxybenzoic acid Bu ester, and 42.9 phr glass fibers (FT 562) and extruding at 235° gave pellets, which were injection-molded to give test pieces showing tensile strength 239 MPa, tensile modulus 16 GPa (ASTM D 790), and mold growth area S258 (JIS Z 2911).					
IC	ICM	C08L067-00				
CC	CC08K005-101; F24F001-00					
CC	38-3 (Plastics Fabrication and Uses)					
IT	90967-43-TP	Hydroquinone-p-hydroxybenzoic acid-6-hydroxy-2-naphthalic acid-terephthalic acid copolymer				
RU	IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)					
	(Liquid crystalline Polyester compns. with good antifungal properties and mech. strength for moldings)					
L126 ANSWER B OF 85	HCAPLUS COPYRIGHT 2007 ACS on STN					
ACCESSION NUMBER:	2005135406	HCAPLUS	FULL-text			
DOCUMENT NUMBER:	145:219057					
TITLE:	Process for the dehydration of hydrous sodium β-raphitholate					
INVENTOR(S):	Yano, Ryusou; Kitayama, Masaya; Iwamichi, Nobutaka; Obata, Akira					
SOURCE:	Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyujo, Japan					
DOCUMENT TYPE:	Eur. Pat. Appl., 11 pp.					
LANGUAGE:	EPON					
FAMILY ACC. NUM. COUNT:	1					
PATENT INFORMATION:						
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
EP 1506930	A1	20050216	EP 2004-19324	20040813		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, ET, RO, MK, CY, AL, TR, CZ, EE, RU, PL, SK, HR						

JP 2005060316 A 20050310 JP 2003-293058 20030813 IT 99-96-7, 4-Hydroxybenzoic acid, reactions 107-21-1,
US 2005043564 A 20050224 US 9-15354 20040811 Ethylene glycol, reactions 111-50-2, Hexanedioyl dichloride
CN 1628490 A 20050615 CN 2004-10056673 20040813 163205-74-1, 2-Hydroxy-5-carboxybenzenesulfonic acid
OTHER SOURCE(S) : CASREACT 142-219057 RL: RCT (Reactant); RACT (Reactant or Reagent)
INFO. : (synthesis and phase transitions of main-chain liquid-crystalline ionomers bearing potassium sulfonate groups)

AB A process for dehydrating hydrous sodium β -naphtholate comprises: heating the hydrous sodium β -naphtholate or a mixture of the hydrous sodium β -naphtholate and β -naphthol which comprises ≥ 0.2 mol. of β -naphthol per one mole of sodium β -naphtholate in a solvent (e.g., kerosene) at 260-300° under an inert gas. This process makes it possible to dehydrate hydrous sodium β -naphtholate thoroughly in a short time with less production of tarry byproducts and makes it a preferred intermediate for CO₂ carboxylation in the manufacture of 2-hydroxy-3-naphthoic acid.

IC ICM C07C037-70
CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 45

RETABLE
Referenced Author | Year | VOL | PG | Referenced Work | Referenced
(RAU) | (RPT) | (VRL) | (RPG) | (RMK) | File

Basf Ag 1976 | 1976 | GB 1443987 A | 1 | HCAPLUS
Basf Ag 1977 | 1977 | GB 1464418 A | 1 | HCAPLUS
Cone, L 1924 | 1924 | US 103984 A | 1 | HCAPLUS
RK Ueno Seiyaku 1989 | 1989 | IEP 0327221 A | 1 | HCAPLUS
Ueno, R 1980 | 1980 | US 4239913 A | 1 | HCAPLUS

L126 ANSWER 9 OF 85 HCAPLUS COPYRIGHT 2007 ACS ON STN
ACCESSION NUMBER: 2005:410931 HCAPLUS Full-text
DOCUMENT NUMBER: 141:97732

TITLE: Main-chain liquid-crystalline ionomers bearing potassium sulfonate groups

AUTHOR(S): Meng, Fan-Bao; Zhang, Bao-Yan; Xu, Ye; Liu, Jing-Yan
CORPORATE SOURCE: Research Centre for Molecular Sciences and Engineering,
Northeastern University, Shenyang, 110004, Peop. Rep. China
SOURCE: Journal of Applied Polymer Science (2005), 96(6), 2021-2026
COHEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of thermotropic main-chain liquid-crystalline (LC) ionomers were prepared, which contained potassium sulfonate groups pendant to the chains. The polymers were prepared in an esterifying reaction with potassium ion contents ranging from 0 and 3.9 wt %. The content of potassium ion was characterized by spectrophotometric anal. with sodium tetraphenylboron as the titrant. Chemical structures were determined by various exptl. techniques including Fourier transform IR spectroscopy and 1H-NMR. LC properties were characterized by differential scanning calorimetry, polarizing optical microscopy, and X-rays. All of the polymers displayed nematic or smectic mesophases. With increasing potassium sulfonate ionic concentration in the polymers, the melting temp., and isotropic transition temp. changed little, whereas the temperature of the smectic A-nematic phase transition increased.

The ionic aggregation was tangled with the rigid mesogenic groups of LC segments to form multiple block domains, leading the soft main chains to fold and form a lamellar structure due to their electrostatic interactions.

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 75

IT Glass transition temperature

(of PBT/p-hydroxybenzoic acid thermotropic copolyester

RETABLE
Referenced Author | Year | VOL | PG | Referenced Work | Referenced
(RAU) | (RPT) | (VRL) | (RPG) | (RMK) | File

Barmatov, E 2001 | 139 | IJ Polym. Sci Part A: Macromolecules | HCAPLUS
Bhowmik, P 1998 | 31 | 1621 | Macromolecules | HCAPLUS
Dutta, D 1996 | 37 | 1429 | Polymer | HCAPLUS
Han, H 1995 | 13 | 199 | Trends Polym. Sci | HCAPLUS
He, J 1999 | 40 | 199 | Polymer | HCAPLUS
Lin, Q 2002 | 51 | 1540 | Polym. Int. | HCAPLUS
Meng, F 2003 | 44 | 13935 | Macromol. Chem. Phys. | HCAPLUS
Molnar, A 1992 | 25 | 5774 | Macromolecules | HCAPLUS
Pabstian, M 2002 | 203 | 1363 | Macromol. Chem. Phys. | HCAPLUS
Weiss, R 1990 | 41 | 191 | J Appl. Polym. Sci. | HCAPLUS
Wilber, G 2000 | 41 | 13471 | Polymer | HCAPLUS
Xue, Y 1996 | 197 | 13259 | Macromol. Chem. Phys. | HCAPLUS
Xue, Y 1997 | 30 | 13803 | Macromolecules | HCAPLUS
Xue, Y 1998 | 31 | 1808 | Macromolecules | HCAPLUS
Xue, Y 1998 | 31 | 17806 | Macromolecules | HCAPLUS
Zhang, B 1992 | 30 | 191 | IJ Polym. Sci. Part Pol. | HCAPLUS
Zhang, B 1992 | 30 | 989 | IJ Polym. Sci. Polym. Ch. | HCAPLUS
Zhang, B 2003 | 36 | 13320 | Macromolecules | HCAPLUS

L126 ANSWER 10 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:509857 HCAPLUS Full-text
DOCUMENT NUMBER: 144:274873
TITLE: Synthesis and characterization of poly(butylene terephthalate)/p-hydroxybenzoic acid thermotropic copolyester by in-situ acetylation

AUTHOR(S): Guo, Chaoying; Mao, Liabao; Zhou, Xingping; Xie, Xiaolin
CORPORATE SOURCE: Department of Chemistry, Huazhong University of Science and Technology, Wuhan, 430074, Peop. Rep. China
SOURCE: Suliaco Songye (2004), 32(1), 4-6, 25
PUBLISHER: Suliaco Songye
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Poly(butylene terephthalate)/p-hydroxybenzoic acid copolymers (PBT/PHB) were synthesized from PBT and PHB by in-situ acetylation. Effects of molar ratio of PBT to PHB on phase transition and liquid crystallinity of the copolyester were studied. The PBT/PHB copolymers had nematic:liquid crystalline behavior and two glass transition temps. When the mole fraction of PHB was 20-80%, when the mole fraction of PHB was up to 60%, the PBT/PHB copolymers had two melting temps., which were related to PBT-rich phase and PHB-rich phase in the copolyester. Compared with the ester interchange of p-acetoxybenzoic acid and PBT, the in-situ acetylation of PHB was useful to restrain formation of long PHB blocking chains.

CC 37-3 (Plastics Manufacture and Processing)

IT Thermal properties

(of PBT/p-hydroxybenzoic acid thermotropic copolyester

synthesized by hydrolytic decomposition of poly(butylene terephthalate) and in-situ acetylation of p-hydroxybenzoic acid)

IT 63228-47-7P 1,4-Butanediol-p-hydroxybenzoic acid-terephthalic acid copolymer

RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (partial assumed monomers; synthesis of PBT/p-hydroxybenzoic acid thermotropic copolyester by in-situ acetylation)

IT 108-24-7, Acetic anhydride
RU: RGT (Reagent); RACT (Reactant or reagent)
(synthesis of PBT/p-hydroxybenzoic acid)

thermotropic copolyester by in-situ acetylation)

LI26 ANSWER 11 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
2003:472481 HCAPLUS Full-text

DOCUMENT NUMBER: 139:44203

INVENTOR(S): Minami, Kenji; Wakamori, Hiroyuki; Yonetani, Nobuhiro
Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyujo, Japan

SOURCE: PCT Int. Appl., 27 PP.

CODEN: PIXX22
Patent

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. WO 20030619

DATE 2002-JP12907

APPLICATION NO. 20021210

DATE -----

synthesized by hydrolytic decomposition of poly(butylene terephthalate) and in-situ acetylation of p-hydroxybenzoic acid)

IT 63228-47-7P 1,4-Butanediol-p-hydroxybenzoic acid-terephthalic acid copolymer

RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (partial assumed monomers; synthesis of PBT/p-hydroxybenzoic acid thermotropic copolyester by in-situ acetylation)

IT 108-24-7, Acetic anhydride
RU: RGT (Reagent); RACT (Reactant or reagent)
(synthesis of PBT/p-hydroxybenzoic acid)

thermotropic copolyester by in-situ acetylation)

LI26 ANSWER 11 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
2003:472481 HCAPLUS Full-text

DOCUMENT NUMBER: 139:44203

INVENTOR(S): Dano, Ryozo; Kitayama, Masaya;
Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyujo, Japan

SOURCE: PCT Int. Appl., 27 PP.

CODEN: PIXX22

Patent

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. WO 20030619

DATE 2002-JP12907

APPLICATION NO. 20021210

DATE -----

PRIORITY APPLN. INFO.: JP' 2001-359350 A 20011126
WO 2002-JP12257 W 20021125

AB The polyester resins contain monomer units derived from 2-hydroxy-3-naphthoic acid and/or 2-hydroxymethylphthalene-3,6-dicarboxylic acid in an amount of 1-5000 mmol% based on all structural monomer units in the polyester resins and an alkali metal compound in an amount of 10-3000 ppm, in terms of alkali metal amount, of all monomer units in the polyester resins. The liquid-crystal polyester resins have improved heat resistance and satisfactory colorability and mech. properties.

IC ICM CO8G063-02

CC Section cross-references(s): 75

IT 536746-64-2P 536746-65-2P 536746-67-2P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(Liquid-crystal polyesters with improved colorability, heat resistance, and mech. Properties)

REFERRED AUTHOR	YEAR	VOL	PG	REFERRED WORK	REFERRED FILE
(RAU)	(RPL)	(RVL)	(RPG)		
Kabushiki Kaisha Ueno Si	2001	1		IWO 0068291 A1	HCAPLUS
Kabushiki Kaisha Ueno Si	2001	1		EP 1103573 A1	HCAPLUS

L126 ANSWER 13 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003166980 HCAPLUS Full-text

DOCUMENT NUMBER: 13B:204837

TITLE: Preparation of p-hydroxybenzoic acid

DANNO, Ryuzo; KITAYAMA, Masaya;

Izumiya, Nobutaka; Tamagawa, Katsunori

Ueno Fine Chemicals Industry Ltd., Japan

JPN. Kokai Tokyo Koho, 6 pp.

CODEN: JKXXAF Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. JP 200237127

DATE A 20021226

APPLICATION NO. WO 2002-JP5782

DATE 20010615

20020611

INVENTOR(S): Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

IC ICM CO8G063-06

CC 38-3 (Plastics Fabrication and Use)

IT 479066-89-2P 479066-90-2P 479066-91-6P

OTHER SOURCE(S): CASREACT 13B:204837; MARPAT 13B:204837

AB The compound is prepared by dehydration of PHOK with agents lowering m.p. of

PHOK as mixts. and reaction with CO₂. PHOK was dehydrated with potassium

2,3,6-trimethylphenoxide at 250° for 4 h, mixed with PHOK, and reacted under

0.6 MPa CO₂ at 240° for 1 h to give 77% p-hydroxybenzoic acid.

IC ICM C07C051-15

CC C07C065-03

IT 99-96-7P, p-Hydroxybenzoic acid, Preparation

R#: IMF (Industrial manufacture); SEN (Synthetic preparation); PREP

(Preparation), Preparation of hydroxybenzoic acid by dehydration of PHOK with potassium

methylphenoxides and carboxylation with CO₂)

L126 ANSWER 14 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002-95705 HCAPLUS Full-text

DOCUMENT NUMBER: 13B:57063

TITLE: Thermotropic liquid crystal polyesters with reduced

anisotropy in mechanical properties, their compositions, and their molded products

DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

INVENTOR(S): Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. JP 200237127

DATE A 20021227

APPLICATION NO. WO 2002-JP5782

DATE 20010615

20020611

INVENTOR(S): Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. EP 1422256

DATE A 20040526

APPLICATION NO. EP 2002-738655

DATE 20020611

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. CN 1541237

DATE A 20041027

APPLICATION NO. CN 2002-815936

DATE 20020611

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. US 2004256599

DATE A 20041223

APPLICATION NO. US 2003-408666

DATE 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-89-2P 479066-90-2P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC 38-3 (Plastics Fabrication and Use)

DATE IT 20020611

APPLICATION NO. IT 479066-92-7P 479066-91-6P

DATE IT 20031215

INVENTOR(S): DANNO, Ryuzo; KITAYAMA, Masaya;

Yonetani, Kichi; Kato, Hiroyuki; Asahara, Motoki

Patentee: Ueno Fine Chemicals Industry Ltd., Japan

CODEN: JKXXAF Patent

LANGUAGE: Japanese

1

PATENT INFORMATION:

PATENT NO. ICS CO8G063-06

DATE CC

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002322118	A	20021108	JP 2001-122934	20010420
PRIORITY APPN. INFO.:			JP 2001-122934	20010420

AB The granules are characterized by that average particle size $\geq 150 \mu\text{m}$ and hardness '70-3000 g. The granules are manufactured by dry-compressing powdered sorbic acid or its alkali metal salts, pulverizing the formed compds., and classifying the granules. Sorbic acid with particle size 40-70 μm was compressed at 1.7 ton/cm², pulverized, and classified by mesh screens to give granule samples having average particle size 1601 μm to 123 μm .

IC ICM C07C051-43
ICS B01J002-22; C07C051-43; A23L003-3508
CC 23-16 (Aliphatic Compounds)

L126 ANSWER 16 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:847733 HCAPLUS Full-text

DOCUMENT NUMBER: 137:352789

TITLE: Granulated naphthols with reduced scattering properties and manufacture of the granules
Inventor(s): **Izumiichi, Ryozo; Kitayama, Masaya;**
Patent Assignee(s): Ueno Seiyaku Oyo Kenkyujo K. K., Japan
Source: Jpn. Kokai Tokyo Koho, 8 PP.
Coden: JKXKAF

DOCUMENT TYPE:

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002322109	A	20021108	JP 2001-122935	20010420

PRIORITY APPN. INFO.:

AB Title granules with average particle size $\geq 150 \mu\text{m}$ and hardness 50-3000 g are manufactured by dry-compressing powdered naphthols, pulverizing, and sieving. Thus, 2-hydroxynaphthalene-6-carboxylic acid powder was pressed at 0.7 ton/cm², pulverized, and sieved to give granules (average particle size 1161 μm , hardness '77 g), which showed less sliding properties than the powder, but showed as good solubility as the powder. in aqueous NaOH.

IC ICM C07C039-14
ICS B02C019-12; C07C037-84; C07C051-43
CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

L126 ANSWER 17 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:827449 HCAPLUS Full-text

DOCUMENT NUMBER: 137:325238

TITLE: Preparation of p-hydroxybenzoic acid or its ester granules without caking and scattering
Inventor(s): **Izumiichi, Ryozo; Kitayama, Masaya;**

Patent Assignee(s): Ueno Fine Chemicals Industry Ltd., Japan
Source: Jpn. Kokai Tokyo Koho, 11 PP..
Coden: JKXKAF

DOCUMENT TYPE:

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 200225591	A	20020911	JP 2001-51984	20010227

PRIORITY APPN. INFO.:

OTHER SOURCE(S): CASREACT 137:216765

AB Alkali metal salts are recovered by treating of aromatic hydrocarboxylic acid alkali metal salts with mineral acids, addition of H₂O-soluble organic solvents in the resulting soins, or slurries, crystallization of mineral acid alkali metal salts, and removal of the crystals from the aqueous solution A

mixture of 414 g phenol potassium salt and 196 g phenol was treated with CO₂ in gas oil to give 212 g p-hydroxybenzoic acid monopotassium salt and 237 g p-hydroxybenzoic acid dipotassium salt, which was mixed with water, extracted with xylene, treated with H₂SO₄, and crystallized to give 256 g K₂SC₄.

IC ICM C07C051-50

ICS C07C065-03; C07C065-11

CC 25-17 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT 13639-2-8P, p-Hydroxybenzoic acid dipotassium salt

IT 16782-08-AP, p-Hydroxybenzoic acid monopotassium salt

IT 170013-59-9P (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 92-70-6P, 2-Hydroxyxanthohthalane-3-carboxylic acid 99-96-7E, p-Hydroxybenzoic acid' preparation 16712-64-4P, 2-Hydroxymaphthalene-6-

RI: SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 16052-73-4P (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 2002-56814 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 138:86844 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20001121 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20010423 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 200110430 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20001121 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20000502 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20001121 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20000530 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20001121 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20000530 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

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IT 20000530 (Reactant or reagent)

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IT 20000530 (Reactant or reagent)

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IT 20000530 (Reactant or reagent)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

(molds and system for injection molding of resins in short molding cycles)

1126 ANSWER 20 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:167153 HCAPLUS Full-text

DOCUMENT NUMBER: 138:36732

TITLE: Dielectric constant/loss behaviour of 11.6 MeV/n U238 ion irradiated poly(p-hydroxybenzoic acid) liquid crystal

CODEN: 13OPAU; ISSN: 0019-5596

NATIONAL INSTITUTE OF SCIENCE COMMUNICATION

AUTHOR(S): Sridharbabu, Y.; Prabhavathi, T.; Quamarra, J. K.

CORPORATE SOURCE: Department of Applied Physics, Regional Engineering College, Kurukshetra, 136 119, India

SOURCE: Indian Journal of Pure and Applied Physics (2002), 40(9), 633-636

PUBLISHER: National Institute of Science Communication

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polyester liquid crystal, a copolymer of polyethylene terephthalate (PET) and polyhydroxy benzoic acid (PHB), of 165 μm nominal thickness was irradiated with 11.6 MeV/n U238 ions with fluence 1 + 10⁶ ions/cm². The dielectric constant/loss values for the samples were measured in the temperature range 20-220°C by using a Kaitbly precision LCZ meter for frequencies 120 Hz, 1 kHz, 10 kHz, and 100 kHz. An increase in the dielec. constant at low temperature (20-60°C) mainly ascribed to α-relaxation, depends upon the molar concentration (0.3 or 0.7) of PHB. This peak has been attributed to the polar nature of both PET and PHB. The α-relaxation is followed by suppression in dielec. constant of PET/0.3PHB and sharp increase in dielec. constant of PET/0.7PHB from which one can understand that due to irradiation, the PET-rich phase has been affected drastically. The decrease in the dielec. constant at higher temps. is due to the increase in crystallinity as annealing-like effects are also induced due to irradiation by energetic heavy ions. The peak in the dielec. loss (0.3PHB) curve ascribed to the space charge relaxation processes, which is in accordance with the thermally stimulated polarization current behavior. A continuous decrease in the dielec. loss curve (0.7PHB) ascribed to the *μ-transition* that is in conformity with the investigations on internal friction.

CC 37-5 (Plastics Manufacture and Processing) Section cross-reference(s): 76 IT 25822-54-2, Ethylene glycol-4-hydroxybenzoic acid-terephthalic acid copolymer

RL: CPS (Chemical Process); PEP (Physical, engineering or chemical Process); PRP (Properties); PROC (Process) (Liquid-crystalline; dielec. constant/loss behavior of 11.6 MeV/n U238 ion irradiated)

IT 2002-56814 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 138:86844 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20001121 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20010423 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 200110430 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20001121 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20000530 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

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IT 20000530 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20000530 HCAPLUS Full-text

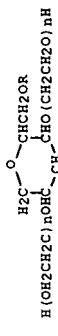
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Recovery method of alkali metal salts in preparation of aromatic hydroxycarboxylic acids)

IT 20000530 HCAPLUS Full-text

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Re

George, F	1998	126	IJ Polym Sci B: Polym	WO 2001081449	A1	20011101	WO 2001-JP3242	20010416
Jackson, W	1976	14	IJ Polym Sci, Polym HCAPLUS	W: CN, JP, KR, US				
Ober, C	1943	12043	American Chemical Sy HCPLUS	RW: AT, BE, CH, CX,				
	1950	1435		PT, SE, TR				
	1956	134	Indian J Pure & Appl HCPLUS	EP 1195398	A1	20020410	EP 2001-919953	20010416
Quamara, J	1998	136	I Indian J Pure & Appl HCPLUS	EP 1195398	B1	20031012		
Quamara, J	1997	148	Ivacum	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, SE, MC, PT,				
L126 ANSWER 21 OF 85	HCAPLUS	COPYRIGHT 2007 ACS on STN	AT 306510	T	20051015	AT 2001-519953	20010416	
ACCESSION NUMBER:	2002:00133 HCAPLUS	Full-text	TW 553974	B	20030921	TW 2001-9019307	20010418	
DOCUMENT NUMBER:	138:107119		US 6802889	B1	20041012	US 2001-9613	20011214	
TITLE:	Synthesis of side-chain liquid crystalline random styrene-maleic anhydride copolymers grafted by dimer and tetramer of p-hydroxybenzoic acid	PRIORITY APPN. INFO. :	JP 2000-119762	A	20000420	WO 2001-JP3242	W	20010416
AUTHOR(S):	Liu, Hongchao; Guo, Zhaorong; Xie, Xiaolin	AB	Title resin contains 1-500 mmol repeating units derived from 4-hydroxylsophthalic acid and/or salicylic acid as a comonomer and contains an alkali metal compound 10-5000 ppm. Thus, a composition comprising 2-hydroxy-6-naphthoic acid-2-hydroxybenzoic acid-salicylic acid copolymer, potassium sulfate, and Carbon Black 45 was extruded to give a black pallet, showing Izod impact strength 418 J/m.					
CORPORATE SOURCE:	Department of Chemistry, Huazhong University of Science and Technology, Wuhan, 430074, Peop. Rep. China							
SOURCE:	Huazhong Keji Daxue Xuebac, Ziran Kexueban (2002), 30(5), 111-113							
	CODEN: HKDXAT; ISSN: 1671-4512							
PUBLISHER:	Huazhong Keji Daxue Xuebac Bianjibu							
DOCUMENT TYPE:	Journal							
LANGUAGE:	Chinese							
AB	Dimer (DHBA) and tetramer (THBA) of p-hydroxybenzoic acid (HBA) were synthesized and grafted onto the random styrene-maleic anhydride copolymer (ISMA) by condensation polymerization. At the same time, the CH2 flexible spacers were introduced between the main chains and rigid side chains. The effects of side chain structure and flexible spacers on the liquid crystallinity of grafting polymers were discussed. It was found that the products obtained from RSM or RSM-g-HOCH2OH reacted with DHBA and THBA were grafting copolymers, all showing nematic phases. The RSM-g-DHBA and RS-g-THBA copolymers had only one glass transition and their glass transition temperature were higher than that of RSM. After the CH2 flexible spacers were introduced between the main chains and rigid side chains of these copolymers, the RSM-CH2-THBA grafting copolymers had two glass transitions due to the de-coupling effect of flexible spacers.	RETABLE	Referenced Author (RAU)	YEAR VOL PG Referenced Work (RWK) Referenced File				
	35-8 (Chemistry of Synthetic High Polymers)		General Electric Compani	IJP 0510744 A	HCAPLUS			
	227001-01-SP, Maleic anhydride-g-p-hydroxybenzoic acid graft copolymer		General Electric Compani	EP 498283 A	HCAPLUS			
	(Preparation)		General Electric Compani 1993	US 5198572 A	HCAPLUS			
	(synthesis of side-chain liquid crystalline random styrene-maleic anhydride copolymers grafted by dimer and tetramer of p-hydroxybenzoic acid)	L126 ANSWER 23 OF 85	HCAPLUS	COPYRIGHT 2007 ACS on STN				
		ACCESSION NUMBER:	2001:109992 HCAPLUS	Full-text				
		DOCUMENT NUMBER:	1341132921					
		TITLE:	Color controlling agents, coupling agents containing thiazole, and azo dyes therefrom;					
		INVENTOR(S):	Veno, Ryuzo; Kitayama, Masaya; Ezumiichi, Nobutaka; Kato, Hirayuki; Kittaka, Shoji					
		PATENT ASSIGNEE(S):	Ueno Seiyaku Oyo Kenkyusho K. K., Japan					
		DOCUMENT TYPE:	Jpn. Kokai Tokkyo Koho, 4 pp.					
		LANGUAGE:	CODDN: JKXXAF					
		FAMILY ACC. NUM. COUNT:	Patent					
		PATENT INFORMATION:	Japanese					
		PATENT NO.	1	KIND	DATE	APPLICATION NO.		DATE
		JP 2001040236	A	20010213	JP 1999-212085	19990727		
		PRIORITY APPN. INFO. :	JP 1999-212085					
			JP 1999-212085					
			19990727					

OTHER SOURCE(S) : MARPAT 134:132921
GI



AB The color controlling agents are polyoxyethylene sorbitan fatty acid monoesters I [R = (un)saturated linear or branched aliphatic acyl group; n ≥ 1]. Thus, 2-hydroxy-3-naphthalene carboxylic acid was azo-coupled with sorbitan monoleate (I; R = oleyl, n = 20) to give an azo dye with bluish red.

IC ICM C09B067-20
ICS C09B029-20

CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

LI26 ANSWER 24 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN 2001:629045 HCAPLUS Full_text
DOCUMENT NUMBER: 135:372392

TITLE: Thermal behavior of poly(acryloyloxybenzoic acid)/nylon 6 blends

AUTHOR(S): Sesha Sainath, A. V.; Inoue, T.; Yonatake, K.; Koyama, K.
Venture Business Laboratory of Yamagata University, Yonezawa, 992-8510, Japan
Polymer (2001), 42(24), 9859-9862
CODEN: POLMAG; ISSN: 0032-3861

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

AB The thermal behavior of poly(acryloyloxybenzoic acid) (PABA)/nylon 6 (PA6) blends were investigated by differential scanning calorimetry. M.P. (T_m) of PA6 depressed with increasing PABA content. When PABA content was larger than about 60 wt%, second endotherm was observed above the T_m (first endotherm). Wide angle X-ray diffraction anal. suggested that crystallinity of PA6 was decreased with increasing PABA content. The second endotherm could be assigned to the melting of PA6-PABA complex.

CC 37-5 (Plastics Manufacture and Processing)
IT Glass transition temperature

AB The thermal behavior of poly(acryloyloxybenzoic acid)/nylon 6 blends (of poly(acryloyloxybenzoic acid)/nylon 6 blends)

IT 99-96-7, 4-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

CC 37-5 (Plastics Manufacture and Processing)
IT Melting point

AB The thermal behavior of poly(acryloyloxybenzoic acid)/nylon 6 blends

IT 99-96-7, 4-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

AB The thermal behavior of poly(acryloyloxybenzoic acid)/nylon 6 blends

IT 99-96-7, 4-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

AB The thermal behavior of poly(acryloyloxybenzoic acid)/nylon 6 blends

IT 99-96-7, 4-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

AB The thermal behavior of poly(acryloyloxybenzoic acid)/nylon 6 blends

IT 99-96-7, 4-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

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IT 99-96-7, 4-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

IT 307002-47-TP 307002-48-AP 307002-49-TP

RU: IMF (Industrial manufacture); PRP-(Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (Liquid-crystalline polymers for moldings having weld strength)
 RU: 71-41-0, Amyl alcohol reactions 92-88-6, [1,1'-Biphenyl]-4,4'-diol
 106-50-3, p-Phenylenediamine, reactions 108-24-7, Acetic anhydride 629-03-8 2425-55-8 7719-09-7, Thionyl chloride 160592-73-4 183962-16-7 213673-77-9
 RU: RCT (Reactant); RACT (Reactant or reagent)

(Liquid-crystalline polymers for moldings having weld strength)

RETABLE

Referenced Author (RAU)	Year (RYL)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	File
Bayer Aktiengesellschaft				JP 6466231 A	
Bayer Aktiengesellschaft				US 4866154 A	
Kuraray Co Ltd	1991			US 4866154 A	
				JP 03200830 A	

L126 ANSWER 26 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

133:363541

HCAPLUS Full-text

Liquid-crystalline polymers for moldings having weld

strength

Dano, Ryozo; Kitayama, Masaya;

Komerani, Kichi; Hamasaki, Taisei; Asahara, Motoki

Kabushiki Kaiisha Ueno Seiyaku Oyo Kenkyujo, Japan

PCT Int. Appl., 30 PP.

C0DEN: PIXXD2

Patent

Japanese

1

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

WO 2000068291 A1 20001116 WO 2000-3P2860 20000501 WO 200068177 A1 20001116 WO 2000-3P2862 20000501

W; CA, CN, JP, KR, US

RW; AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, IE, IT, LU, MC, NL,

PT, SE

CA 2000-2336892 20000501 CA 2336671 PT, SE A1 20001116 CA 2000-2336671

EP 1103573 A1 20001116 EP 1095929 A1 20010502 EP 2000-9-2924 20000501

EP 1103573 B1 20040915 EP 1095929 B1 20040908

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, FI

AT 2000-9-229222 20000501 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

TW 2000-83108491 20000504 AT 275577 T 20040915 AT 2000-9-22924 20000501

US 593410 B 20040621 US 2001-741396 A 19990507 ES 2230095 T 3 20050501 ES 2000-9-22924 20000501

US 6388045 B1 20020514 JP 1999-127328 A 19990507 ES 3264653 B2 20050629 JP 2000-617158 20000501

PRIORITY APPN. INFO.: WO 2000-3P2860 W 20000501 US 6403827 B1 US 20020611 US 2001-720194 A 1999103 PRIORITY APPN. INFO.: JP 1999-127158 A 1999507 WO 2000-3P2862 W 20000501

AB Polyesters comprise a monomer of naphthalenopolycarboxylnaphtho-3-(3'-ylcarboxyaminophenylene) acid derivative. such as 1,4-bis(2'-hydroxy-6'-hydroxycarbonylnaphtho-3-(3'-ylcarboxyaminophenylene) acid 655, 5-hydroxy-2-naphthoic acid 318, and 1,17 Parts and injection-molded to prepare a test piece having no I.

IC C08G03-13 ICS C08G03-668; C08G05-44; C08J05-00 CC 38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 25, 35, 75

IC ICM C07C05-11 ICS C07C051-43

AB Claimed is a crystal of 2-hydroxynaphthalene-3-carboxylic acid (BON), characterized in that the mean particle diameter is 157 μm or above and the content of particles having diam. of 74 μm or below is 14 % or below. This crystal can be prepared by (a) crystg. BON at high temperature or (b) reacting (at high temperature) BON alkali metal salt with acid and recrystg. the resulting BON at high temperature

IC ICM C07C05-11 ICS C07C051-43

CC	75-1 (Crystallography and Liquid Crystals)					
RETABLE						
Referenced Author (RAU)	Year VOL PG Referenced Work (RPG) (RVL) (RWK)	Referenced Work (RWK)	Referenced Work (RPG)	Referenced Work (RVL)	Referenced Work (RWK)	Referenced Work (RWK)
Kabushiki Kaisha Ueno Si	IUS 4239913 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Kabushiki Kaisha Ueno Si	IUS 4239913 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Kabushiki Kaisha Ueno Si	JP 5479257 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Kabushiki Kaisha Ueno Si	JP 5479257 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Kabushiki Kaisha Ueno Si1979	IGB 2008090 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Kabushiki Kaisha Ueno Si1980	IGB 2008090 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Kabushiki Kaisha Ueno Si1980	JP 5535042 A	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
L126 ANSWER 28 OF 85	IHCAPLUS COPYRIGHT 2007 ACS on STN					
ACCESSION NUMBER:	2006:522443 HCAPLUS Full-text					
DOCUMENT NUMBER:	133:238679					
TITLE:	Synthesis, characterization and coating applications of liquid crystalline acrylic copolymers					
AUTHOR(S):	Athawale, V. D.; Ballkeri, R. S.					
CORPORATE SOURCE:	Department of Chemistry, University of Mumbai, Mumbai, 400 098, India					
SOURCE:	Liquid Crystals (2000), 27(8), 1021-1027					
PUBLISHER:	COEN: LICR6; ISSN: 0027-8292					
DOCUMENT TYPE:	Taylor & Francis Ltd.					
LANGUAGE:	English					
AB	The synthesis and characterization of the coating properties of liquid crystalline acrylic copolymers containing p-hydroxybenzoic acid as mesogenic group are described. The synthetic method involves the grafting of p-hydroxybenzoic acid onto acrylic copolymers, confirmed by characterization with IR and ¹ H NMR techniques. The presence of liquid crystal was assessed by observing optical textures under the polarizing microscope and by DSC and TGA. The coating properties such as flexibility, hardness, adhesion, drying time, viscosity, etc. of acrylic copolymers as well as of liquid crystalline acrylic copolymers were studied. The results showed that LC polymers have potential for coating applications.					
CC	37-3 (Plastics Manufacture and Processing)					
IT	Glass transition temperature					
IT	Hardness (mechanical)					
IT	Hydrogen-bonded acrylic copolymer and hydroxybenzoic acid-grafted acrylic copolymer liquid crystals)					
IT	108589-66-8P, Acrylic acid-ethyl acrylate-p-hydroxybenzoic acid-methyl methacrylate graft copolymer 111431-33-2P, Acrylic acid-butyyl acrylate-p-hydroxybenzoic acid-methyl methacrylate graft copolymer					
IT	RU: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)					
IT	(preparation and characterization and coating applications of hydroxybenzoic acid-grafted acrylic copolymer liquid crystals)					
RETABLE	Referenced Author (RAU)	Year VOL PG Referenced Work (RPG) (RVL) (RWK)	Referenced Work (RWK)	Referenced Work (RPG)	Referenced Work (RVL)	Referenced Work (RWK)
Akiyama, E	1997 123 1425 Liq Cryst	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Bhabha, M	1995 156 485 IJ appl Polym Sci: Po IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Chen, D	1998 36 141 IJ appl Polym Sci Polymer Liq Cryst	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Green, D	1997 38 5355 Liq Cryst	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS
Haramoto, Y	1996 21 341 Liq Cryst	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS

RETABLE	Referenced Author (RAU)	Year VOL PG Referenced Work (RPG) (RVL) (RWK)	Referenced Work (RWK)	Referenced Work (RPG)	Referenced Work (RVL)	Referenced Work (RWK)
Akiyama, E	1997 123 1425 Liq Cryst	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS	IHCAPLUS

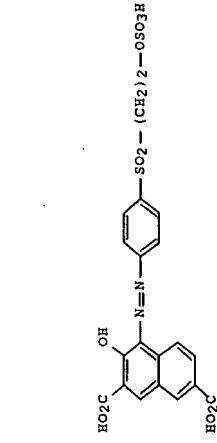
- | | | |
|---|---|-------------------------------|
| Anton | I1997 | I259 Handbook of Liquid Cr. |
| Bhoomik, P | I1995 33 1927 J Polym Sci, Polym HCAP | |
| Cameron, J | I1997 9 398 Adv Mater HCAP | |
| Hassel, V | I1993 14 707 Makromol Chem, Rapid HCAP | |
| Larrie, C | I1995 3 22 Transl Polym Sci HCAP | |
| Navarro-Rodriguez, D | I1992 193 3117 Makromol Chem HCAP | |
| Ujije, S | I1990 1 Chem Commun in Press HCAP | |
| Ujije, S | I1990 995 Chem Lett HCAP | |
| Ujije, S | I1994 17 Chem Lett HCAP | |
| Ujije, S | I1998 10 139 High Perform Polym HCAP | |
| Ujije, S | I1999 56 385 Kobunshi Ronbunshu HCAP | |
| Ujije, S | I1992 25 13174 Macromolecules HCAP | |
| Ujije, S | I1993 231 1263 Mol Cryst Liq Cryst HCAP | |
| Ujije, S | I1993 25 1347 Polym J HCAP | |
| Ujije, S | I1991 34 1157 Rep Prog Polym Phys HCAP | |
| I1992 ANSWER 30 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN 2000:738000 HCAPLUS Full-text | | |
| I341:18049 Thermal properties of blends of a thermotropic crystalline copolyester of Poly(hydroxy benzoic acid-co-ethylene terephthalate) and polyarylate | | |
| AUTHOR(S): Han, Minsoo; Park, Junghoon; Cheen, Sun Woo | | |
| CORPORATE SOURCE: Hyun, Kim, Woo Nyon | | |
| DOCUMENT NUMBER: Department of Chemical Engineering, Center Advanced Functional Polymers, Korea University | | |
| TITLE: 136-701, S. Korea | | |
| SOURCE: Polymer Bulletin (Berlin) (2000), 45 (2), 15 CODEN: POUDR; ISSN: 0170-0539 | | |
| PUBLISHER: Springer-Verlag | | |
| LANGUAGE: English | | |
| DOCUMENT TYPE: Journal | | |
| AB Thermal properties and transesterification reaction of blends of polyarylate (PAR) and Rodarin 5000 thermotropic liquid crystal polymer (LCP) were investigated by differential scanning calorimetry (DSC), Fourier-transform IR (FTIR) spectroscopy. In the thermogram of the blends, two glass transition <i>t_{gs}</i> were observed. The phase blends revealed that the LCP dissolved more in the PAR-rich phase, indicating partial miscibility between the polymer-polymer interaction parameter (<i>X₁₂</i>) was ranged from 0.069 to 0.076. In the calcon. of the <i>X₁₂</i> , the axis LCP was considered. After annealing, the two <i>T_{gs}</i> of the blends toward the center. In the FTIR spectroscopy study of the annealed blends, three new characteristic peaks of the ester group were observed. The DSC and FTIR results suggested that the transesterification reaction of PAR and LCP occurred under the annealed condition. | | |
| IT 37-5 (Plastics Manufacture and Processing) | | |
| Polymer blends | | |
| RL: PRP (Properties) | | |
| (aromatic polyester-liquid crystalline copolymer of poly(hydroxy benzoic acid-co-ethylene terephthalate) and Ardel D-100 polyarylate) | | |
| Polyesters, properties | | |
| RL: PRF (Polymer in formulation); PRP (Properties); USES (Uses) (aromatic, liquid crystal polyester blends; thermal property thermotropic liquid crystalline copolyester of poly(hydroxy benzoic acid-co-ethylene terephthalate) and Ardel D-100 | | |
| IT | | |
| blends of thermotropic liquid crystalline copolymer of poly(hydroxy benzoic acid-co-ethylene terephthalate) and Ardel D-100 | | |

- Kotliar, A
Lee, H
Lee, H
Miley, D
Mondragon, I
Muellerbach, A
Oh, T
Porter, R
Porter, R
Tang, P
Wei, K
Weiss, R
- ACCESSION NUMBER: L126 ANSWER 31 OF 85
DOCUMENT NUMBER: 19981116
TITLE: Synthesis and characterization of liquid crystalline polymers of styrene-maleic anhydride; copolymer grafted by poly(p-hydroxybenzoic acid)
- AUTHOR(S): Zhou, Yan; Tong, Shenyi; Xie, Xiaolin
CORPORATE SOURCE: Department of Chemical Engineering, Wuhan Institute of Chemical Technology, 430073, Peop. Rep. China
SOURCE: Hecheng Shuzhi Ji Sulaio (2000), 17(6), 34-36
PUBLISHER: Chinese Journal
DOCUMENT TYPE: Article
LANGUAGE: Chinese
- AB: The liquid crystalline copolymers of styrene-maleic anhydride grafted by **p-hydroxybenzoic acid** (HBA) were synthesized through condensation polymerization in pyridine solvent at mild temperature. The copolymers were characterized by means of Fourier transform IR spectrometry and differential scanning calorimetry (DSC). The glass transition temperature rose because of the introduction of liquid crystalline side chains.
- CC: 37-3 (Plastics Manufacture and Processing)
Section cross-references(s): 35
IT: Glass transition temperature
(synthesis and characterization of liquid crystalline polymers of styrene-maleic anhydride copolymer grafted by poly(p-hydroxybenzoic acid))
IT: 227001-01-6F, **p-Hydroxybenzoic acid-maleic anhydride**-styrene graft copolymer
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(Preparation)
polymers of styrene-maleic anhydride copolymer grafted by poly(p-hydroxybenzoic acid)
- L126 ANSWER 31 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
DOCUMENT NUMBER: 19981137
TITLE: Synthesis and characterization of liquid crystalline polymers of styrene-maleic anhydride; copolymer grafted by poly(p-hydroxybenzoic acid)
- AUTHOR(S): Zhou, Yan; Tong, Shenyi; Xie, Xiaolin
CORPORATE SOURCE: Department of Chemical Engineering, Wuhan Institute of Chemical Technology, 430073, Peop. Rep. China
SOURCE: Hecheng Shuzhi Ji Sulaio (2000), 17(6), 34-36
PUBLISHER: Chinese Journal
DOCUMENT TYPE: Article
LANGUAGE: Chinese
- AB: The liquid crystalline copolymers of styrene-maleic anhydride grafted by **p-hydroxybenzoic acid** (HBA) were synthesized through condensation polymerization in pyridine solvent at mild temperature. The copolymers were characterized by means of Fourier transform IR spectrometry and differential scanning calorimetry (DSC). The glass transition temperature rose because of the introduction of liquid crystalline side chains.
- CC: 37-3 (Plastics Manufacture and Processing)
Section cross-references(s): 35
IT: Glass transition temperature
(synthesis and characterization of liquid crystalline polymers of styrene-maleic anhydride copolymer grafted by poly(p-hydroxybenzoic acid))
IT: 227001-01-6F, **p-Hydroxybenzoic acid-maleic anhydride**-styrene graft copolymer
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(Preparation)
polymers of styrene-maleic anhydride copolymer grafted by poly(p-hydroxybenzoic acid)
- L126 ANSWER 32 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
DOCUMENT NUMBER: 19981133
TITLE: Synthesis of liquid crystalline polymers of SMA copolymer grafted by **p-hydroxybenzoic acid** dimer and tetramer
- AUTHOR(S): Zhou, Yan; Tong, Shenyi; Xie, Xiao-lin
CORPORATE SOURCE: Department of Chemical Engineering, Wuhan Institute of Chemical Technology, 430073, Peop. Rep. China
SOURCE: Wuhan Huagong Xueyuan Xuebao (2000), 22(2), 18-22
- PUBLISHER: Chinese Journal
DOCUMENT TYPE: Article
LANGUAGE: Chinese
- AB: Dimer and tetramer of **p-hydroxy benzoic acid (HBA)** were synthesized and grafted to styrene-maleic anhydride copolymer (SMA) to produce side chain liquid crystalline polymers (LCP). FT-IR, DSC and POM were used to characterize LCP. Glass-transition temperature of LCP rised because of the induction of liquid crystalline unit on SMA main chain.
- CC: 35-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 37, 75
IT: Glass transition temperature
IR spectra
Polymer morphology
(synthesis, morphol., glass temperature, and IR spectra of liquid crystalline polyester grafted with styrene-maleic-anhydride copolymer)
- IT: 227001-01-6F, **p-Hydroxybenzoic acid**
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(Preparation)
(side-chain)liquid crystals; synthesis, morphol., glass temperature, and IR spectra of liquid crystalline polyester grafted with-styrene-maleic anhydride copolymer)
- L126 ANSWER 33 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
DOCUMENT NUMBER: 2000131893
TITLE: Synthesis and liquid crystalline properties of PET/PHB copolymers
- AUTHOR(S): Shan, Guorong; Weng, Zhixue; Huang, Zhihang; Chen, Xueping; Pan, Zuren
CORPORATE SOURCE: Institute of Polymer Science and Engineering, Department of Chemical Engineering, Zhejiang University, Hangzhou, 310023, Peop. Rep. China
SOURCE: Hecheng Shuzhi Ji Sulaio (2000), 17(3), 13-16
PUBLISHER: Chinese Journal
DOCUMENT TYPE: Article
LANGUAGE: Chinese
- AB: **p-Hydroxybenzoic acid (PHB)** unit was introduced into the polyethylene terephthalate chain in order to form liquid **crystalline** segment. It was confirmed that one-step process was superior to two-step process. The effects of polycondensation **temperature**, reaction time, concentration of catalyst, content of PHB on the inherent viscosity of PET/PHB copolymers were studied in the one-step process. The liquid **crystalline** properties of the PET/PHB copolymers were characterized by means of polarized light microscope and differential scanning calorimeter.
- CC: 35-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 75
IT: PET para hydroxy **benzoic acid** copolymer liq **crystal**; Polyethylene terephthalate hydroxy **benzoic acid** copolymer liq **crystal**; crystal; antimony oxide transetherification catalyst
- IT: Polyesters, preparation
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(copolymers; synthesis and liquid **crystalline** properties of PET/PHB copolymers)
IT: Liquid **crystals**, polymeric (ethylene glycol-p-hydroxybenzoic acid-terephthalic acid copolyesters; synthesis and liquid **crystalline** properties of PET/PHB copolymers)

IT Phase transition temperature
Transesterification catalysts
Viscosity
(synthesis and liquid crystalline properties of PET/PIB copolymers)

IT 25822-54-2P Ethylene glycol-p-hydroxybenzoic acid-terephthalic acid copolymer
RU: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(synthesis and liquid crystalline properties of PET/PIB copolymers)

LI126 ANSWER 34 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:460470 HCAPLUS Full-text
DOCUMENT NUMBER: 131:89074
TITLE: Water-soluble azo compounds and process for their preparation
Kan, Ryuzo; Kitayama, Masaya;
Minami, Kenji; Kitaoka, Masaharu
Kabushiki Kaisha Denso Seiyaku Oyo Kenkyujo, Japan
PCT Int. Appl., 34 PP.
CODEN: PIXXD2
Patent
Japanese
DOCUMENT TYPE:
LANGUAGE:
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
PATENT NO.:
WO 9933925 A1 19990708 WO 1998-JP5755 19981221
W: CA, CN, JP, KR, US
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE
TW 527402 B 20030411 TW 1998-87121274 19981219
A1 19900708 CA 1998-2282534,
AL 20000308 EP 1998-961428
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI
CN 1098319 B 20030108 CN 1998-803539 19981221
US 6239263 B1 20010529 US 1999-380207 19990826
JP 1997-359396 A 19971226
WO 1998-JP5755 W 19981221
PRIORITY APPN. INFO.:
OTHER SOURCE(S) : MRPAT 131:89074
GI



Section cross-reference(s):	40	Referenced Author (RAI)	Year (RY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Year (RWP)	VOL (RVL)	PG (RPG)	Referenced File (RF)	File (RC)
RETABLE		Azienda Colori Nazionali	1981			EP 33527 A2	19980825			HCAPLUS	
		Hoechst Ag				EP 29295 A2	19980825			HCAPLUS	
		Hoechst Ag				DE 3718180 A1	19980825			HCAPLUS	
		Hoechst Ag				US 5093483 A	19980825			HCAPLUS	
		R-Tech UenoLtd	1998			JP 63309559 A	19980825			HCAPLUS	
		R-Tech UenoLtd	1998			EP 8816267 A1	19980825			HCAPLUS	
						WO 9816587 A1	19980825			HCAPLUS	
LI126 ANSWER 35 OF 85		HCAPLUS	COPYRIGHT 2007 ACS on STN			1999:189145	HCAPLUS Full-text				
ACCESSION NUMBER:			130:197883			130:197883					
DOCUMENT NUMBER:			Water-soluble azo compounds and production process								
TITLE:			thereof								
INVENTOR(S):			Dono, Ryuzo; Kitayama, Masaya;								
SOURCE:			Minami, Kenji; Kitaoka, Masaharu								
DOCUMENT TYPE:			Kabushiki Kaisha Denso Seiyaku Oyo Kenkyujo, Japan								
LANGUAGE:			PCT Int. Appl., 45 pp.								
FAMILY ACC. NUM. COUNT:	1		CODEN: PIXXD2								
PATENT INFORMATION:			DOCUMENT TYPE:								
PATENT NO.:			Patent								
KIND:			Japanese								
DATE:			Family ACC. NUM. COUNT: 1								
PATENT NO.:			PATENT INFORMATION:								
WO 9911717 A1 19990311											
W: CA, CN, JP, KR, US											
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,											
PT, SE											
CA 1998-801222											
AT 1998-228463											
DE 1998-87114143											
DK 1997-322687											
EP 1998-JP3750											
WO 19980825											

PATENT NO.:	KIND	DATE	APPLICATION NO.	DATE
WO 9911717 A1 19990311	A1	19990311	WO 1998-JP3750	19980825
W: CA, CN, JP, KR, US				
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
PT, SE				
CA 1998-2266258	A1	19990311	CA 1998-2266258	19980825
EP 937753	A1	19990311	EP 1998-938963	19980825
CA 19990311	B1	20030806		
EP 937753				
CA 1998-801222				
AT 1998-228463				
DE 1998-87114143				
DK 1997-322687				
EP 1998-JP3750				
WO 19980825				

OTHER SOURCE(S): MARPAT 130:197883
 AB New water-soluble azo compds. used as starting materials for dyes with excellent dyeing properties and fastness were produced from 2-hydroxymaphthalene-3,6-dicarboxylic acid or its derivs. and a diazonium salt having a sulfo group. Thus, an azo compound was prepared by reaction of sulfanilic acid with cyanuric chloride, followed by reaction of the product with m-phenylenediamine-4-sulfonic acid, then diazotization with 2-hydroxy-3-red crystal powder 90-3 g, showing good dyeing property with cotton fiber.

IC IOM C09B062-085
 ICS C09B062-245; C09B19-15; C09B029-20
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 40

REFTABLE	Referenced Author (RAU)	Year (RAU)	VOL (RVL)	PG (RPG)	Referenced Work (RMW)	Referenced File#
L126 ANSWER 36 OF 85	HCAPLUS	COPYRIGHT 2007 ACS on STN 1999:396054 HCAPLUS Full-text				
ACCESSION NUMBER:		131:9333				
DOCUMENT NUMBER:						
TITLE:						
AUTHOR(S):						
CORPORATE SOURCE:						
SOURCE:						
PUBLISHER:						
DOCUMENT TYPE:						
LANGUAGE:						
AB	Mol. dynamics (MD) simulations were used to study diffusion of methane in three highly impermeable aromatic polyesters that are good barrier materials. These are amorphous poly(ethylene terephthalate) (PET) and poly(ethylene 2,6-naphthalene dicarboxylate) (PEN), and the nematic mesophase of the thermotropic liquid crystalline copolyester (LCP) of p-hydroxy benzoic acid (HBA) and 2-hydroxynaphthoic acid (HNA). Diffusion coeffs. were determined in the temperature ranges of 450-625 K for PET, 500-625 K for PEN, 425-530 K for the LCP, where values are large enough to be accessible to MD in practical computation times. Extrapolation, via Arrhenius plots, of the coeffs. to near room temperature gave good agreement with exptl. data in that region. This was found even though the glass transition temps. (Tg) of PET (350 K) and PEN (390 K) lie in the intervening temperature range. This finding confirms previous observations that a low temperature hopping regime for small penetrants sets in on cooling well before the Tg of the host. Anal. of diffusant trajectories in terms of diffusive jump size distribution also shows that the low temperature hopping regime remains in place over the temperature range studied in these low diffusion coefficient polymers. Correlation of diffusion coeffs. with free volume was examined. The LCP, even though diffusion there is highly anisotropic, is found to lie on a correlation found previously for five other polymers studied via MD. However, PET and PEN fail badly and are found to diffuse much more slowly than inferred from free volume vs. diffusion coefficient behavior in the other polymers.					
CC	36-5 (Physical Properties of Synthetic High Polymers)					
IT	Diffusion Free volume Glass transition temperature Mesophase Simulation and Modeling, physicochemical (mol. dynamics simulation of small mol. diffusion in aromatic polyesters)					
IT	2498-11-4, Poly(oxy-1,2-ethanediyl)oxycarbonyl-2,6-naphthalenediyl(carbonyl) ₂ 25038-19-9, properties 25230-87-9, Poly(ethylene 2,6-naphthalene dicarboxylate) 93319-28-3, 1,4-Hydroxybenzoic acid-2,6-hydroxymaphthoic acid copolymer PL: PRP (Properties)					
IT	RETABLE Referenced Author (RAU)	Year (RPL)	VOL (RPG)	PG (RPL)	Referenced Work (RWK)	Referenced File
CC	IC C07C051-15 ICS C07C063-03; C07C065-10; C07B061-00 CC 25-17 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds) IT 69-72-7P, preparation 89-56-5P, 2-Hydroxy-5-methylbenzoic acid 99-96-7P, 92-70-6P, 2-Hydroxynaphthalene-3-carboxylic acid p-Hydroxybenzoic acid, preparation 2283-08-1P, 2-Hydroxymaphthalene-1-carboxylic acid 16712-64-4P, 2-Hydroxynaphthalene-6-carboxylic acid RI: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP	11998 31	17682 1769	1821	1821	1821
IC	IHCAPLUS HCAPLUS HCAPLUS					

AB New water-soluble azo compds. used as starting materials for dyes with excellent dyeing properties and fastness were produced from 2-hydroxymaphthalene-3,6-dicarboxylic acid or its derivs. and a diazonium salt having a sulfo group. Thus, an azo compound was prepared by reaction of sulfanilic acid with cyanuric chloride, followed by reaction of the product with m-phenylenediamine-4-sulfonic acid, then diazotization with 2-hydroxy-3-red crystal powder 90-3 g, showing good dyeing property with cotton fiber.

IC IOM C09B062-085
 ICS C09B062-245; C09B19-15; C09B029-20
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 40

REFTABLE	Referenced Author (RAU)	Year (RVL)	VOL (RPG)	PG (RPL)	Referenced Work (RWK)	Referenced File
L126 ANSWER 37 OF 85	HCAPLUS	COPYRIGHT 2007 ACS on STN 1999:396054 HCAPLUS Full-text				
ACCESSION NUMBER:		131:9333				
DOCUMENT NUMBER:						
TITLE:						
AUTHOR(S):						
CORPORATE SOURCE:						
SOURCE:						
PUBLISHER:						
DOCUMENT TYPE:						
LANGUAGE:						
AB	Mol. dynamics (MD) simulations were used to study diffusion of methane in three highly impermeable aromatic polyesters that are good barrier materials. These are amorphous poly(ethylene terephthalate) (PET) and poly(ethylene 2,6-naphthalene dicarboxylate) (PEN), and the nematic mesophase of the thermotropic liquid crystalline copolyester (LCP) of p-hydroxy benzoic acid (HBA) and 2-hydroxynaphthoic acid (HNA). Diffusion coeffs. were determined in the temperature ranges of 450-625 K for PET, 500-625 K for PEN, 425-530 K for the LCP, where values are large enough to be accessible to MD in practical computation times. Extrapolation, via Arrhenius plots, of the coeffs. to near room temperature gave good agreement with exptl. data in that region. This was found even though the glass transition temps. (Tg) of PET (350 K) and PEN (390 K) lie in the intervening temperature range. This finding confirms previous observations that a low temperature hopping regime for small penetrants sets in on cooling well before the Tg of the host. Anal. of diffusant trajectories in terms of diffusive jump size distribution also shows that the low temperature hopping regime remains in place over the temperature range studied in these low diffusion coefficient polymers. Correlation of diffusion coeffs. with free volume was examined. The LCP, even though diffusion there is highly anisotropic, is found to lie on a correlation found previously for five other polymers studied via MD. However, PET and PEN fail badly and are found to diffuse much more slowly than inferred from free volume vs. diffusion coefficient behavior in the other polymers.					
CC	36-5 (Physical Properties of Synthetic High Polymers)					
IT	Diffusion Free volume Glass transition temperature Mesophase Simulation and Modeling, physicochemical (mol. dynamics simulation of small mol. diffusion in aromatic polyesters)					
IT	2498-11-4, Poly(oxy-1,2-ethanediyl)oxycarbonyl-2,6-naphthalenediyl(carbonyl) ₂ 25038-19-9, properties 25230-87-9, Poly(ethylene 2,6-naphthalene dicarboxylate) 93319-28-3, 1,4-Hydroxybenzoic acid-2,6-hydroxymaphthoic acid copolymer PL: PRP (Properties)					
IT	RETABLE Referenced Author (RAU)	Year (RPL)	VOL (RPG)	PG (RPL)	Referenced Work (RWK)	Referenced File
CC	IC C07C051-15 ICS C07C063-03; C07C065-10; C07B061-00 CC 25-17 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds) IT 69-72-7P, preparation 89-56-5P, 2-Hydroxy-5-methylbenzoic acid 99-96-7P, 92-70-6P, 2-Hydroxynaphthalene-3-carboxylic acid p-Hydroxybenzoic acid, preparation 2283-08-1P, 2-Hydroxymaphthalene-1-carboxylic acid 16712-64-4P, 2-Hydroxynaphthalene-6-carboxylic acid RI: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP	11998 31	17682 1769	1821	1821	1821
IC	IHCAPLUS HCAPLUS HCAPLUS					

Cao, M	[1985 23]	[J] Poly Sci Polym Phys HCAPLUS	1521	IT	2009-83-8P, 6-Chloroethanol	62702-43-6P, 6-Hydroxyhexyl-1-
Chiou, J	[1987 25]	[J] Polym Sci Polym Phys HCAPLUS	1639	IT	RCT (Reactant); SPN (Synthetic Preparation); PREP (Preparation); RACT (Reactant or reagent)	
Chivers, R	[1984 25]	[J] Polymer	1435	IT	mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)	
Coburn, J	[1986 19]	[Macromolecules HCAPLUS	1238	IT	159450-33-6P 161896-97-5P 216495-22-6P 256239-14-2P	
Crank, J	[1968 1]	[J] Diffusion in polymer HCAPLUS		IT	RL: PRP (Properties); RCT (Reactant); SPN (Synthetic Preparation); PREP (Preparation); RACT (Reactant or reagent)	
Gee, R	[1995 36]	[J] Polymer	1435	IT	mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)	
Han, J	[1994 27]	[Macromolecules HCAPLUS	1565	IT	159450-33-6P 161896-97-5P 216495-22-6P 256239-13-1P	
Han, J	[1994 27]	[Macromolecules HCAPLUS	1781	IT	RL: CAT (Catalyst use); USES (Uses)	
Han, J	[1996 37]	[J] Polymer	1197	IT	(polymerization catalyst; preparation and phase transition temp (monomer) preparation and phase transition temp of mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)	
Hedenqvist, M	[1998 31]	[Macromolecules HCAPLUS	1556	IT	77-58-7, Diethyltin dilaurate	
Light, R	[1982 22]	[J] Polym Eng Sci HCAPLUS	857	IT	RL: CAT (Catalyst use); USES (Uses)	
Michaels, A	[1963 34]	[J] Appl Phys HCAPLUS	13	IT	(polymerization catalyst; preparation and phase transition temp of mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)	
Mueller-Plathe, F	[1992 96]	[Chem Phys HCAPLUS	3200	IT	99-96-7, 4-Hydroxybenzoic acid, reactions 100-20-9,	
Mueller-Plathe, F	[1992 25]	[Macromolecules HCAPLUS	6722	IT	Terephthaloyl chloride 629-11-8, 1,6-Hexandiool 7647-01-0,	
Pant, P	[1992 25]	[Macromolecules HCAPLUS	494	IT	Hydrochloric acid, reactions	
Pant, P	[1993 26]	[Macromolecules HCAPLUS	679	IT	RL: RCT (Reactant); RACT (Reactant or reagent)	
Sok, R	[1992 96]	[J] Chem Phys HCAPLUS	639	IT	(preparation and phase transition temp of mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)	
Takuchi, H	[1990 93]	[J] Chem Phys HCAPLUS	2062	IT	IT	
Walsh, D	[1995 1]	[Standard pressure]o HCAPLUS		IT		
Zoller, P	[1986 18]	[Macromol Sci Phys HCAPLUS	555	IT		
L126 ANSWER 38 OF 85	HCAPLUS COPYRIGHT 2007 ACS on SPN					
ACCESSION NUMBER:	1995-810859 HCAPLUS Full-text					
DOCUMENT NUMBER:	1995-123003					
TITLE:	Synthesis and liquid crystalline properties of new thermotropic polyurethanes					
AUTHOR(S):	Lian, Yanding; Li, Mingqi; Zhan, Jun; Zhou, Qixiang; Liu, Deshan					
CORPORATE SOURCE:	Institute of Polymer Science and Engineering, Tsinghua University, Beijing 100084, Peop. Rep. China					
SOURCE:	Film Journal (Tokyo) (1999), 31(12), 1189-1193					
PUBLISHER:	CODEN: POLB; ISSN: 0032-3896					
DOCUMENT TYPE:	Society of Polymer Science, Japan Journal					
LANGUAGE:	English					
AB	Mesogenic diol monomers, terephthaloyl dioxybenzoic acid diol esters ($n = 2, 3, 4, 5, 6$), were prepared from ω -hydroxy-alkyl-4-hydroxybenzoate and terephthaloyl chloride, using the Schotten-Baumann reaction. Liquid crystalline polyurethanes (LCPU) were obtained by solution polymerization of the mesogenic diol monomers with 4,4'-diphenylmethane diisocyanate (MDI) and 2,4-tolylene diisocyanate (2,4-TDI). The monomers and polyurethanes were studied by DSC, polarizing microscopy, wide-angle x-ray diffraction (WAXD), small-angle x-ray diffraction (SAXD) and high temperature x-ray diffraction. All LCPU showed a nematic LC nature with wide temperature range.					
CC	35-5 (Chemistry of Synthetic High Polymers) Cross-reference(s): 25, 36, 75 Coupling reaction (Schotten-Baumann; preparation and phase transition temp of mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)					
IT	Liquid crystals (preparation and phase transition temp of mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)					
IT	Liquid crystals (transitions; preparation and phase transition temperature of mesogenic terephthaloyl dioxybenzoic acid diol ester monomers and polymerization to obtain thermotropic polyurethanes)					

Referenced Author (RAU)	Year (RAU)	VOL (RPL)	PG (RPL)	Referenced Work (RWK)	PG (RWK)	Referenced File (File)
Angeloni, A	1995 31	253	1	Eur Polym J	1	HCAPLUS
Anon	1987	1	1	International Confér.	1	
Blumstein, A	1990 13	295	1	Liquid Crystals	1	
Chidende, M	1993 13	1295	1	Mol Cryst Liq Cryst	1	HCAPLUS
Chiellini, E	1994 1243	135	1	Makromol Chem	1	HCAPLUS
Finkenmann, H	1998 1179	273	1	IRC '95	1	HCAPLUS
Furukawa, M	1995 1	1	1	Functional Polym J	1	HCAPLUS
Han, X	1994 7	405	1	J Polym Sci, Part A	1	
Harida, H	1995 33	901	1	J Polym Sci, Part B	1	
Imura, K	1988 182	12569	1	Macromol Chem	1	HCAPLUS
Jia, X	1996 62	465	1	J Appl Polym Sci	1	HCAPLUS
Kothandaraman, H	1994 31	139	1	Macromol Sci, Pure	1	HCAPLUS
Kricheldorf, H	1989 1190	2579	1	Macromol Chem	1	HCAPLUS
Kricheldorf, H	1989 1190	2597	1	Macromol Chem	1	HCAPLUS
Kricheldorf, H	1988 19	681	1	Macromol Chem Rapid	1	HCAPLUS
Lee, J	1993 26	14989	1	Macromolecules	1	HCAPLUS
Mormann, W	1991 5	219	1	Integration of Fudam.	1	
Mormann, W	1989 1190	1919	1	Makromol Chem	1	HCAPLUS
Mormann, W	1989 1190	631	1	Makromol Chem	1	HCAPLUS
Mormann, W	1995 1196	543	1	Makromol Chem Phys	1	HCAPLUS
Mormann, W	1991 124	1096	1	Macromolecules	1	HCAPLUS
Mormann, W	1990 124	1413	1	Polym Bull	1	HCAPLUS
Mormann, W	1989 130	1291	1	Polym Prep., Am Chem	1	HCAPLUS
Oncuchi, Y	1993 34	187	1	Polymer	1	HCAPLUS
Papadimitrakopoulos, F	1992 25	4671	1	Macromolecules	1	HCAPLUS
Papadimitrakopoulos, F	1992 25	4682	1	Macromolecules	1	HCAPLUS
Pollack, S	1990 31	1486	1	Polym Prepr., Am Chem	1	HCAPLUS
Pollack, S	1992 22	551	1	Macromolecules	1	HCAPLUS
Pollack, S	1989 130	2381	1	Macromolecules	1	HCAPLUS
Pollack, S	1989 130	517	1	Polym Prepr., Am Chem	1	HCAPLUS

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Macromolecules IHCAPLUS
(Polymer J) IHCAPLUS
Advanced in Urethane IHCAPLUS
International Progr IHCAPLUS
IJ Macromol Chem, -Chem IHCAPLUS
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IJ Eur Polym J IHCAPLUS
[Thesis, University o]
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2564
3389
1467
103
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- 1999:381766 HCAPLUS Full-text
131:32245
- COPYRIGHT 2007 ACS on STN
Rigid long side-chain liquid crystalline
Synthesis of rigid long side-chain liquid crystalline
Polymers with intermol. hydrogen bonds
Xie, Xiao-Lin; Li, Bo-Geng; Pan, Zu-Ren
Dep. Chem., Huazhong Univ. Sci. Technol., Wuhan,
Gadeng Xuekao Huaxue Xuebao (1999), 20(3), 489-491
CODEN: KTHDKP; ISSN: 0251-0790
- PUBLISHER:
DOCUMENT TYPE:
LANGUAGE:
- AB Rigid long side-chain liquid crystalline polymers with intermol. hydrogen bonds were synthesized from random styrene-maleic anhydride copolymer (RSM) and p-hydroxybenzoic acid (HBA) with catalyst. Their chemical structures were characterized by FTIR spectrum. Polarizing microscope with hot-stage and DSC were used to investigate the liquid crystallinity. RSM-g-HBA copolymers had intermol. hydrogen bonds and exhibited nematic mesophase. M.P. of the rigid side chain increased with increasing d.p.
- CC Section cross-references(s): 75
- IT Melting point
(of rigid long side-chain liquid crystalline polymers with intermol. hydrogen bonds)
- IT 227,001-01-6P, **P-Hydroxybenzoic acid-maleic anhydride-styrene graft copolymer**
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
hydrogen bonds)
- IT 1126 ANSWER 40 OF 85 HCAPLUS. COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999-279893 HCAPLUS Full-text
DOCUMENT NUMBER: 131:144914
- TITLE:
Synthesis of thermotropic liquid crystal copolymer containing p-hydroxy benzoic acid and its property
- AUTHOR(S): Yang, Yongsheng; Zhao, Lijun; Dong, Dewen; Ni, Yushan
CORPORATE SOURCE: Heilongjiang Institute of Sports Technology, Harbin, 15,0000, Peop. Rep. China
SOURCE: Dongbei Shida Xuebao, Ziran Kexueban (1999), (1), 52-56
CODEN: DSZKEE; ISSN: 1000-1832
- PUBLISHER: Dongbei Shifan Dakye Xueshu Qikanshe
DOCUMENT TYPE: Journal

- LANGUAGE: Chinese
AB A dicarboxylic acid monomer, N,N'-hexane-1,6-diylbis(trimellitimide), was prepared by the reaction of trimellitic anhydride with 1,6-hexamethylene diamine by flux polymerization, and a series of copolymers were synthesized by thermal condensation of the dicarboxylic acid with 4,4'-dihydroxidiphenyl ketone, p-hydroxybenzoic acid, and different molar ratio of terephthalic acid. The property of the resulting copolymers were characterized by polarized light microscopy, DSC, and wide angle X-ray diffraction. All the copolymers could form a nematic phase over a wide temperature range above their melt.
- IT 35-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 75
- ST thermotropic liquid polyester polyimide synthesis; triimide anhydride hexamethylene diamine reaction; dihydroxydiphenyl (Liquid-crystalline); synthesis, morphol., and rheol. and thermal properties of thermotropic liquid crystal polyester-polyimides
- IT Polyesters, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(melt; synthesis, morphol., and rheol. and thermal properties of thermotropic liquid crystal polyester-polyimides)
- IT Polymides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyester, liquid crystal; synthesis, morphol., and rheol. and thermal properties of thermotropic liquid crystal polyester-polyimides)
- IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyimide, liquid crystal; synthesis, morphol., and rheol. and thermal properties of thermotropic liquid crystal polyester-polyimides)
- IT Polymers, preparation
RL: RCT (Reactant); RAC (Reactant or reagent)
(in synthesis of thermotropic liquid crystal copolymer containing p-hydroxy benzoic acid)
- IT 124-09-4, 1,6-Hexanediol, reactions 552-3-0-7
RL: RCT (Reactant); RAC (Reactant or reagent)
(in synthesis of thermotropic liquid crystal copolymer containing p-hydroxy benzoic acid)
- IT 4649-28-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(in synthesis of thermotropic liquid crystal copolymer containing p-hydroxy benzoic acid)
- IT 124-09-4, 1,6-Hexanediol, reactions 552-3-0-7
RL: RCT (Reactant); RAC (Reactant or reagent)
(in synthesis of thermotropic liquid crystal copolymer containing p-hydroxy benzoic acid)
- IT 161996-96-4P, 4,4'-Dihydroxydiphenyl ketone-p-Hydroxybenzoic acid-terephthalic acid copolymer 180463-34-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(liquid crystal; synthesis, morphol., and rheol. and thermal properties of thermotropic liquid crystal polyester-polyimides)
- L126 ANSWER 41 OF 85 HCAPLUS. COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998-519856 HCAPLUS Full-text
DOCUMENT NUMBER: 129:148831
TITLE:
Preparation of diarylnaphthol derivatives.
Inventor(s): Ueda, Ryozo; Ito, Shigeru; Mirami, Kenji;

48
SN 10/553451 Page 48 of 163

Dielectric loss
Dielectric relaxation

Glass transition temperature

(dielec. relaxation of rigid-chain thermotropic LC polymers studied by the method of dielec. losses and thermostimulated depolarization current)

IT 25822-54-2, p-Hydroxybenzoic acid-ethylene glycol-terephthalic acid copolymer **81843-52-9**, p-Hydroxybenzoic acid-2,6-hydroxymethinic acid copolymer

RL: PRP (Properties)
 (dielec. relaxation of rigid-chain thermotropic LC polymers studied by the method of dielec. losses and thermostimulated depolarization current)

L126 ANSWER 46 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESION NUMBER: 1996-733938 HCAPLUS Full-text
 DOCUMENT NUMBER: 12618856

TITLE: Process for producing naphthol derivatives

INVENTOR(S): **Daio, Ryozo; Ito, Shigeru; Minami, Kenji; Ri Layama, Masaya**

PATENT ASSIGNEE(S): Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyujo, Japan
 SOURCE: PCR Int. Appl., 78 pp.
 CDDN: PIXD2

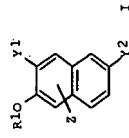
DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NOM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	DATE	APPLICATION NO.	DATE
WO 9632366	1996-01-17	WO 1996-JP979	19960410
W: CA, CN, JP, KR, US R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			
CA 2192542	19961017	CA 1996-212542	19960410
EP 765858	19970402	EP 1996-909328	19960410
EP 765858	19991122		
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			
CN 1155882	A CN 19970730	CN 1996-190592	19960410
CN 1073081	B AT 187955	AT 1996-90328	19960410
	T ES 2142576	ES 1996-90328	19960410
	T3 PT 765858	PT 1996-909328	19960410
	T JP 2228516	JP 1996-530874	19960410
	B2 JP 622104	JP 1996-764269	19961212
	B1 US 5847233	US 1997-975189	1997120
	A GR 302762	GR 2000-400464	20000925
	T3 US 5847233	JP 1995-86784	A 19950412
	GR 302762	WO 1995-JP979	W 19960410
		US 1996-764269	A3 19961212

OTHER SOURCE(S): CASREACT 126:18656; MARPAT 126:18656

GI



AB The title compds. [I]; Y1, Y2 = (CONH)RN, COR2; X = (un)substituted Ph, naphthyl, anthraquinonyl, benzimidazolyl, carbazolyl; R1 = H, an alkali metal, Cl-6 alkyl or acyl, phenylalkyl; R2 = OH, C1-6 alkoxy, halo, NO2, NO, NH2, and either of the naphthalene rings may be substituted thereby; n = 1-2; when R2 = OH, R1, Z ≠ H) are prepared I are useful materials in the production of dyes, pigments, photosensitive materials, etc. Thus, I (Y1 = Y2 = CO2H, Z = H; R1 = OH) was reacted with o-chloraniline in the presence of PCl3 to give I (Y1 = Y2 = 2-chlorophenylaminocarbonyl, Z = H, R1 = H).

IC ICM C07C065-11
 ICS C07C065-24; C07C025-59; C07C207-04; C07C229-70;
 C07C231-02; C07C235-66; C07D235-26; C07D209-82
 CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 IR 62-53-3, Anilines, Reactions 67-56-1, Methanol, Reactions 74-63-0,
 Isopropyl alcohol, Reactions 75-03-6, Phenacyl bromide, Reactions 90-04-0,
 Iodomethane, Reactions 95-23-8, 95-51-2, o-Chloraniline, 95-53-4, o-Methoxyaniline, Reactions 95-23-8
 95-68-1, 2,4-Dimethylaniline, 97-35-8, 3-Amino-1-diethyaminosulfonylbenzene 99-09-2
 methoxybenzene 98-16-8, 1-Amino-9-ethylcarbazole 100-44-7, Benzyl chloride, Reactions 108-24-7, Acetic anhydride 117-79-3, 2-Aminoanthraquinone 134-32-1, 3-Aminonaphthalene 134-20-3, Methyl 2-aminoobanzoate 134-32-7, 1-Aminonaphthalene 62-68-05-9, 2,5-Dimethylphenyl ether 771-60-8, Pentfluoroaniline 62-68-05-9, 2,5-Dimethoxy-4-benzoylaminonaniline 160592-73-4
 RL: RCT (Reagent); RAC (Reagent or reagent); (preparation of naphthol derivs.)

L126 ANSWER 47 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1997-2107 HCAPLUS Full-text
 DOCUMENT NUMBER: 1261972
 TITLE: TSCC study on the broadened glass transition of a liquid crystaline copolyester
 AUTHOR(S): Shimizu, Hiroshi
 CORPORATE SOURCE: Natl. Inst. Mater. Chem. Res.; Tsukuba, 305, Japan
 SOURCE: Netsu Sokutei (1996), 23(3), 140-141
 CODEN: NESOND; ISSN: 0386-2615
 PUBLISHER: Nippon Netsu Sokutei Gakkai
 DOCUMENT TYPE: Journal
 LANGUAGE:
 AB An addnl. peak was observed in the global TSCC (thermally stimulated depolarization current) spectra with varying polling **temperature** for a liquid-crystalline copolyester prepared from 4-hydroxybenzoic acid and 2,6-hydroxynaphthoic acid, indicating that it causes broadening of the glass transition of the copolyester.

CC 36-5 (Physical Properties of Synthetic High Polymers)
 ST Section cross-references(s): 75
 hydroxybenzoic hydroxynaphthoic copolymer polling, glass

transition; liq crystal polyester poling glass transition; TSDC
liq crystal polyester glass transition
Dielectric polarization

Glass transition temperature

Thermally stimulated depolarization current
(TSDC study on broadened glass transition of liquid crystalline
copolyester polarized at different $T_{g,p}$)

RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(polysters; TSDC study on broadened glass transition of liquid crystalline
copolyester polarized at different $T_{g,p}$)

IT: 81843-52-9, 4-Hydroxybenzoic acid-2-hydroxy-6-naphthoic acid
copolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(TSDC study on broadened glass transition of liquid crystalline copolyester
polarized at different $T_{g,p}$)

L126 ANSWER 48 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:746866 HCAPLUS Full-text
DOCUMENT NUMBER: 123:113413
TITLE: Position Annihilation Lifetime Measurements of Free
Volume in Wholly Aromatic Copolymers and Blends
AUTHOR(S): McCullagh, C. M.; Yu, Z.; Jamison, A. M.; Blackwell,
J.; McGehee, J. D.
CORPORATE SOURCE: Department of Macromolecular Science, Case Western
Reserve University, Cleveland, OH, 44106-7202, USA
SOURCE: Macromolecules (1995), 28(18), 6100-7
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB: The temperature of free volume in random copolymers of hydroxybenzoic acid (HBA) and hydroxynaphthalic acid (HNA) was studied from -50° to +350° by measuring the average lifetime, τ_3 , and intensity, I_3 , of ortho-positronium ($o\text{-Ps}$) annihilation. These parameters were also used to determine the fractional free volume, hps. Significant changes in the temperature coeffs. of τ_3 , I_3 , and hps were observed at the α -transition temperature, T_α , and at the melt transition temperature, T_m . The results indicate that both the average size and the number of free volume cavities occupied by positronium increase at T_α , continue to increase uniformly with temperature up to T_m , and then level off. A miscible blend of 75/25 and 30/70 copoly(HBA/HNA) with overall monomer ratio 60/40 exhibits a single melt transition well below those of the component copolymers or a random copolymer of the same composition, suggesting that the chains are less ordered in the blend. Comparison of PALS data for these systems indicates that the blend has a larger hps below T_m , which is primarily due to a larger number of cavities accessible to $o\text{-Ps}$, and a substantially larger temperature coefficient of hps between T_α and T_m . In the nematic melt, the free volume of the blend decreases to that of the pure copolymers, indicating that hps in the nematic phase is independent of composition. Compared to other amorphous or semicryst. polymers, the HBA/HNA copolymers have both fewer detectable free volume cavities and smaller average cavity sizes, presumably due to the "quenched nematic" morphol. of the noncrys. regions.

Glass temperature and transition

(free volume in wholly aromatic hydroxybenzoic

CC IT: 36-5 (Physical Properties of Synthetic High Polymers)

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on results reported here as well as on those of earlier investigators and on results obtained by several techniques, with identical samples studied by the same techniques but at different locations. The diagram is fairly complex. The quasi-liquid phase reported earlier is discussed in some detail. The importance of the diagram for intelligent processing is discussed.

CC 36-3 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 68, 75

Glass temperature and transition

Heat of fusion and Heat of freezing

(of liquid-crystalline ethylene glycol-p-hydroxybenzoic acid-terephthalic acid-terephthalic acid copolymers, composition effect on, phase structure and phase diagrams in relation to)

IT 25922-54-2, Ethylene glycol-p-Hydroxybenzoic acid-terephthalic acid copolymer

RL: PRP (Properties)

(liquid-crystalline, phase structure and phase diagrams of, composition effect on)

L126 ANSWER 51 OF 85 HCAPUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:324834 HCAPUS Full-text
DOCUMENT NUMBER: 120:324834
TITLE: Blends of PEEK and PET-PHB 60: a preliminary study on thermal and morphological aspects
AUTHOR(S): Acero, D.; Nadeo, C.
CORPORATE SOURCE: Dep. Chem. Food Eng., Univ. Salerno, Fisciano, Italy
SOURCE: Polymer (1994), 35 (9), 1994-6
CODEN: POLMAG; ISSN: 0032-3861DOCUMENT TYPE: Journal
LANGUAGE: English
AB The system PEEK/PET [poly(ethylene terephthalate)]-PHB 60 (p-hydroxybenzoic acid) has been studied by differential scanning calorimetry and SEM. The thermal anal. data, especially the glass transition temperature, indicated that the blends are compatible. The SEM anal. seems to confirm this, showing a mostly homogeneous structure. When the two phases are still evident, a good adhesion is shown; this is of interest in terms of the mech. properties, results for which are not yet available.

CC 37-5 (Plastics Manufacture and Processing)

IT 25922-54-2, Ethylene glycol-p-hydroxybenzoic acid-terephthalic acid copolymer

RL: PRP (Properties)
(PEEK blends, morphol. and thermal properties of, composition effect on)L126 ANSWER 52 OF 85 HCAPUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:427748 HCAPUS Full-text
DOCUMENT NUMBER: 117:27748
TITLE: Gas transport properties of thermotropic liquid-crystalline copolymers. II. The effects of copolymer composition
AUTHOR(S): Weinkauf, D. H.; Paul, D. R.
CORPORATE SOURCE: Cent. Polym. Res., Univ. Texas, Austin, TX, 78712, USA
SOURCE: Journal of Polymer Science, Part B: Polymer Physics (1992), 30 (8), 837-49

- DOCUMENT TYPE: Conference
LANGUAGE: English
AB Gas transport properties are reported for a series of compression-molded films prepared from p-hydroxybenzoic acid (1)-2,6-hydroxynaphthalic acid (II) copolymers with 30/70, 58/42, 73/27, 75/25 and 80/30 mol% I/II. The mesomorphic and crystalline morphol. of the copolymer films is characterized using dynamic mech. thermal anal., SEM, DSC, and x-ray diffraction. As evidenced by DMA, the Ph and naphthyl moieties of the copolymers exhibit a significant degree of segmental mobility below the glass transition temperature. The nonlinear nature of the naphthyl unit leads to a more hindered rotation about the chain axis. Permeability measurements are made for He, H₂, O₂, Ar, and CO₂ at 35° and the diffusivities were computed from time-lag data. The films exhibited excellent barrier properties resulting largely from very low gas solubility coeffs. The liquid-crystalline copolyester (LCP), i.e., the copolyester with the highest II content, exhibits the best barrier properties. The more hindered motions of the naphthyl unit restrict penetrant mobility. The decrease in permeability with increased naphthyl unit content is accompanied by a very dramatic increase in selectivity between gas pairs. Fractional free volume analysis is used to correlate the transport properties of the LCP materials and other conventional polymers. A 2-phase modification of the free volume correlation suggests that transport may likely occur in a small volume fraction of a less dense boundary phase.
- CC 36-8 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 75
IT Glass temperature and transition
RL: PROC (Process)
Heat of fusion and Heat of freezing
(of the thermotropic liquid-crystalline hydroxybenzoic acid-hydroxynaphthalic acid copolymers, composition effect on)
- IT 81843-52-9, p-hydroxybenzoic acid-2,6-hydroxynaphthalic acid copolymer
RL: PROC (Process)
(Liquid-crystalline, gas transport properties of, composition effect on)
- L126 ANSWER 53 OF 85 HCAPUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:1249370 HCAPUS Full-text
DOCUMENT NUMBER: 123:33983
TITLE: Studies of structure and glass transition in liquid crystalline copolymers by means of synchrotron radiation and related methods
AUTHOR(S): Zachmann, H. G.; Thiel, S.
CORPORATE SOURCE: Inst. Technische Makromolekulare Chem., Univ. Hamburg, 2000/13, Germany
SOURCE: Trends Non-Cryst. Solids, 3rd (1992); Meeting Date 1991, 245-56. Editor(s): Conde, A.; Conde, C. F.; Millan, M. World Sci.: Singapore, Singapore
CODEN: GOLDA6 Conference
LANGUAGE: English
- AB Binary and ternary systems containing poly(ethylene terephthalate) (PET), poly(ethylene naphthalene-2,6-dicarboxylate) (PEN) and p-hydroxybenzoic acid (PHB) were synthesized. These materials are liquid crystalline (LC) if they contain more than about 30 mol% PHB. The glass transition (Tg) was studied by dynamic mech. anal. and the crystallization kinetics by wide angle x-ray scattering employing synchrotron radiation. The transition LC-isotropic state was investigated by means of differential scanning calorimetry. It was shown that in some of the copolymers different fractions of the LC phase (from 0

to 100°) can be frozen-in. Thus it became possible to compare the glass transition, mol. motion and crystallization kinetics of the LC phase to that of the isotropic phase. In the LC phase the glass transition temperature is lower than in the isotropic phase, the mol. motion above Tg does not include conformation changes, and crystal growth is linear instead of three-dimensional.

CC 36-2 (Physical Properties of Synthetic High Polymers)

ST Polyester liq crystal structure glass temp
IT Chains, chemical
IT Glass temperature and transition

Liquid crystals, polymeric
(structure and glass transition in binary and ternary
liquid-crystalline polyester systems studied by synchrotron radiation and
related methods)

IT 2968-11-4, Poly(ethylene naphthalene-2,6-dicarboxylate) 25038-59-9,
naphthalene-2,6-dicarboxylate), properties 25230-87-8, Poly(ethylene
homopolymer, sru 3029-36-3, p-Hydroxybenzoic acid
homopolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)

(structure and glass transition in binary and ternary
liquid-crystalline polyester systems studied by synchrotron radiation and
related methods)

CC 36-2 ANSWER 34 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1992-60345 HCAPLUS Full-text
DOCUMENT NUMBER: 116:60345
TITLE: Crystal-Liquid crystal transition in single
crystals of poly(hydroxybenzoic acid)

AUTHOR(S): Lau, J.; Geil, P. H.
CORPORATE SOURCE: Dep. Mater. Sci. Eng., Univ. Illinois, Urbana, IL,
61801, USA

SOURCE: Journal of Macromolecular Science, Physics (1992),
31(2), 163-73
CODEN: JMAPPB; ISSN: 0022-2348
Journal
English

AB Electron diffraction patterns were obtained from as-polymerized single
crystals of phase II of poly(hydroxybenzoic acid) as a function of temperature
into the liquid-crystalline state above 350°. The patterns in the liquid-
crystalline state consisted of 2 near hexagonal patterns rotated by 16°, with
streaks connecting the high and low (orthorhombic) patterns over a transition
temperature range of approx. 50°. Single crystal patterns were also obtained
from a number of other polymorphs at room temperature before and after heating
to 400°.

CC 36-2 (Physical Properties of Synthetic High Polymers)

ST Section cross-reference(s): 75
IT polyhydroxybenzoic acid, cryst transition; polyester
IT crystal liq crystal transition
IT Crystal structure
(of poly(hydroxybenzoic acid), crystal-liquid crystal
transition in relation to)

IT Polymer morphology
(of poly(hydroxybenzoic acid), crystal-liquid crystal
transition in single crystals in relation to)
IT 26038-71-8, Poly(oxy-1,4-phenylene carbonyl) 30729-36-3
RL: PRP (Properties)
(crystal-liquid crystal transition in single crystals of, electron

diffraction in study of)

L126 ANSWER 55 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991-472648 HCAPLUS Full-text
DOCUMENT NUMBER: 115:72648
TITLE: Dynamic mechanical relaxations in liquid crystal
copolymers in solid phase

AUTHOR(S): Abdul Jawad, S.; Alhaj-Mohammad, M. H.
CORPORATE SOURCE: Phys. Dep., Univ. United Arab Emirates, Al-Ain, United
Arab Emirates
INDIAN Journal of Technology (1991), 29(2), 67-70
CODEN: IJOTAB; ISSN: 0019-5669

SOURCE:

DOCUMENT TYPE:

LANGUAGE: English

AB Three relaxation transitions were observed in nematic 4-hydroxybenzoic acid-2-hydroxy-6-naphthoic acid copolymer at -100-150° at approx. 1 Hz. The intensities of these relaxations were orientation-dependent. In highly oriented samples, each relaxation was more pronounced in shear than in tension. In isotropic samples, however, the intensity of each relaxation was about the same in both shear and tension. The transition temps. were not affected by the differences in the mode of deformation and in the degree of orientation.

CC 36-5 (Physical Properties of Synthetic High Polymers)

IT 13524-27-8
RL: PRP (Properties)
(liquid-crystalline, dynamic mech. relaxations in, in solid phase, effects
of orientation and composition on)

CC 36-5 ANSWER 56 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990-533100 HCAPLUS Full-text
DOCUMENT NUMBER: 113:133100

TITLE: Liquid-crystalline polyesters bearing optically-active
groups
INVENTOR(S): Iimura, Kazuyoshi; Koide, Naoyuki; Taki, Kazutaka
PATENT ASSIGNEE(S): Tosoh Corp., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 6 pp.
CODEN: JKXXAF
Patent

DOCUMENT TYPE:

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----

KIND -----

DATE -----

APPLICATION NO. -----

DATE -----

JP 02053819 A 1990022 JP 1988-203107

JP 1988-203107 19880817

AB Title polyesters, with good elasticity and strength and useful in films,
fibers, moldings, etc., contain 10-90 mol% O2C-HMeCO (Z = 2,6-naphthylene
radical; C* = asym. center) and 90-10 mol% O2ICO (Z1 = phenylene, naphthylene,
biphenylene), and have reduced viscosity (med) (0.5 g/dL in 60:40
PhOH/C2HClO4, at 60°) ≥ 0.2 dL/g. A liquid-crystalline polyester was prepared
from (S)-(+)-(6-hydroxy-2-naphthyl)propionic acid and p-hydroxybenzoic acid
having glass-transition temperature 123.4°, liquid-crystallization transition
temperature 170.6°, isotropic transition temp. 246°, and ηred 0.67 dL/g, and
extrusion film from which had good flexural strength and modulus.

IC 10M COBG053-06

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-references(s): 40
 IT RU: PREP (Preparation)
 (preparation of liquid-crystalline, for films and moldings with good flexural strengths)

L126 ANSWER 57 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:553397 HCAPLUS Full-text

DOCUMENT NUMBER: 113:153397

TITLE: An optical study of phase transitions of poly(ethylene terephthalate-co-p-hydroxybenzoic acid) liquid crystal
 AUTHOR(S): Sun, Tong; Bhattacharya, Subrata K.; Lenz, Robert W.; Porter, Roger S.
 CORPORATE SOURCE: Polym. Sci. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
 SOURCE: Journal of Polymer Science, Part B: Polymer Physics (1990), 28(10), 1677-84
 CODEN: JPBPEH; ISSN: 0887-6266

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The copolyester (I) containing 40 mol % ethylene terephthalate and 60 mol % p-hydroxybenzoate units was reported to be biphasic in the solid and the liquid states. The reported thermal transitions in the 2 phases, however, were in part contradictory, perhaps partly due to different polymerization conditions. The transitions in each of the 2 phases of I were studied by polarized light microscopy and by light transmission measurements. By light transmission measurements, the 2 phases actually had 2 different glass transition temps, for the onset of segmental motion, consistent with 2 assignable temps. Cold crystallization and melting in each of the 2 different phases was also detected. The results helped clarify the nature of transitions and agreed with the results of dynamic mech. anal. on the same thermotropic liquid crystalline I.

CC 36-3 (Physical Properties of Synthetic High Polymers)

IT Section cross-references(s): 75

IT Polyesters, properties

RU: PRP (Properties)

(ethylene glycol-hydroxybenzoic acid-terephthalic acid, phase transitions in liquid-crystalline, optical study of)

IT 25822-54-2

RU: PRP (Properties); (phase transitions in liquid-crystalline, optical study of)

L126 ANSWER 58 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:119528 HCAPLUS Full-text

DOCUMENT NUMBER: 112:119528

TITLE: New polymer synthesis. 39. Thermotropic copolymers of 4-hydroxybenzoic acid and 3-chloro-4-hydroxybenzoic acid
 Schwarz, Gert; Kricheldorf, Hans R.
 CORPORATE SOURCE: Inst. Tech. Makromol. Chem., Univ. Hamburg, Hamburg, D-2000/13, Germany
 SOURCE: Macromolecules (1990), 23(6), 1568-74
 CODEN: NAMOKX; ISSN: 0024-9297
 DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cocondensations of 3-chloro-4-acetoxybenzoic acid with 4-acetoxybenzoic acid

were conducted at 320° in an inert medium with comonomer molar ratios between

5:1 and 1:10. A second series of copolymers with a molar composition near

1:1 was prepared under a variety of reaction conditions. All copolymers

prepared from acetoxybenzoic acids were **crystalline**, whereas those synthesized from 4-(trimethylsilyl)oxybenzoic chloride were mainly amorphous. DSC and wide-angle x-ray scattering (WAXS) measurements revealed that **crystalline** copolymers rich in 4-hydroxybenzoic acid possessed a first-order phase transition at **temp**, between 200 and 340°, which represented a change from orthorhombic to pseudohexagonal chain packing. At compns. around 1:1, WAXS measurements conducted with synchrotron radiation indicated a melting process above 330°. Films were pressed at 390°, and thermomech. analyses yielded heat distortion **temp**, 290-320° for 1:1 copolymers and approx. 390° for 1:4 copolymers. The m.p. rose with increasing fraction of 3-chloro-4-hydroxybenzoic acid to >400°. TGA measurements indicated thermal stabilities (5% weight loss in air) up to 500°.

CC 35-5 (Chemistry of Synthetic High Polymers)
 ST chloroacetoxybenzoic acid copolymer **crystallinity** mp;
 acetoxybenzoic acid copolymer **crystallinity** mp; oxybenzoate **crystal** form
 IT (of hydroxybenzoic acid-chlorohydroxybenzoic acid copolymers, composition effect on, **crystallinity** in relation to)

IT **crystallinity** (of hydroxybenzoic acid-chlorohydroxybenzoic acid copolymers, composition effect on, thermal properties in relation to)
 IT Chains, chemical (packing of, of hydroxybenzoic acid-chlorohydroxybenzoic acid copolymers, composition effect on, **crystallinity** in relation to)

IT Polymers, preparation
 IT SPN (Synthetic preparation); PREP (Preparation) (chlorine-containing, hydroxybenzoic acid-based, preparation and **crystallinity** and phase transitions of)
 IT 85609-98-9 P 90385-35-0P 124921-51-3P, 4-Aacetoxypbenzoic acid-3-chloro-4-acetoxybenzoic acid copolymer 124921-52-4P 224921-53-5P, 3-Chloro-4-hydroxybenzoic acid-4-hydroxybenzoic acid copolymer
 IT SPN (Synthetic preparation); PREP (Preparation) (preparation and **crystallinity** and phase transitions of)
 IT 26099-71-8 Poly(oxy-1,4-phenylenecarbonyl) 30729-36-3,
 4-Hydroxybenzoic acid homopolymer
 IT USES (Uses)
 IT (wide-angle x-ray scattering patterns of)

L126 ANSWER 59 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1989-240720 HCAPLUS Full-text
 DOCUMENT NUMBER: 110:20720
 TITLE: Benzooate esters as liquid crystals intermediates, and processes for their preparation
 INVENTOR(S): Hirai, Toshihiro; Shiratori, Nobuyuki; Yokoyama, Isao; Akihisa Fukumasa, Mitsuo; Shiratori, Nobuyuki; Yokoyama, Isao
 PATENT ASSIGNEE(S): Nippon Mining Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 123 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 CODEN: PIXKD2
 PATENT INFORMATION:
 PATENT NO.: WO 8807518
 DATE: 19880106
 APPLICATION NO.: WO 1988-JP334
 DATE: 19880331

W: JP, US
RW: Ar, BE, CH₃, DE, FR, GB, IT, IJU, NL, SE
EP 311692 A1 19890419 EP 1988-902946
EP 311692 B1 19920708

R: CH, DE, FR, GB, IJU, NL
JP 01238557 A 19890922 JP 1988-75695
JP 08025558 B 19960313 19880331
JP 2510269 B2 19960262 JP 1988-502936
US 5137653 A 19920111 US 1991-775757 19911018
PRIORITY APPLN. INFO.: JP 1987-75518 A 19870331
JP 1987-75519 A 19870331
JP 1987-96218 A 19870421
JP 1987-96219 A 19870421
JP 1987-205384 A 19870821
JP 1987-293999 A 19871124
JP 1987-294000 A 19871124
JP 1987-294001 A 19871124
JP 1987-294002 A 19871124
JP 1987-294003 A 19871124
JP 1988-21381 A 19880202
US 1988-280721 B1 19880331

OTHER SOURCE(S): MARPAT 110:240720
GI



AB RA(p-C₆H₄)₁B(p-C₆H₄)mOOC(CH₂n+1)CkH2k+1 (R = alkyl; A = bond, O, CO₂, OC₂, OC₂, CO₂, CO; B = CO₂, OC₂; 1, m = 1, 2 but 1 = m ≠ 2; h, n ≥ 1 and k > n) are prepared from e.g., ArCOCH(C₆H₄n+1)CkH2k+1 (Ar = p-XCEt₂, p-XCEt, OH, CO₂, CH₂OH). A mixture of 4-[Ma(CH₂)₇OC₆H₄CH₂C₆H₄-] and NaOH in EtOH/H₂O was refluxed to give 4-(Me(CH₂)₇OC₆H₄CH₂C₆H₄-) which was converted to the acid chloride, followed by esterification with (+)-4-R-C₆H₄COCH₂Et (preparation given) in the presence of pyridine to give a benzoate I. I showed smectic C-to-smectic A and smectic A-to-isotropic transitions at 131.0° and 187.0°, resp.

IC C07C069-773
ICS C07C069-80; C07C069-90; C07C069-92; C07C069-94; C07C069-96

CC 75-11 (Crystallography and Liquid Crystals)
Section cross-referenc(s): 25

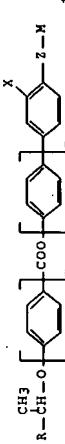
IT **Liquid crystals**

(benzoic ester derivs.)
(electro-, liquid-crystal, compns. containing **benzoic ester derivs.**)

IT 92-66-0, 4-Bromobiphenyl, 1,1'-Biphenyl-4,4'-diol, 92-69-3, 4-Hydroxybiphenyl, 92-88-6, Terephthaloyl dichloride, 100-20-9, reactions 111-87-5, Octylalcohol, 112-71-0, Nonanoyl chloride, 112-13-0, Decanoyl chloride, 112-71-0, 764-85-2, Nonanoyl chloride, 873-75-6, 4-Bromobenzyl alcohol, 1987-50-4, 4-Heptylphenol, 3575-31-3, 4-Octylbenzoic acid, 7452-59-7, 19812-93-2, 4-Hydroxy-4'-cyanobiphenyl, 24460-74-0, Dodecyl chloroformate, 26746-34-9, Bromooctane, 35175-36-3, 4-Nonanoyl oxybenzoic acid, 41422-11-7, 4'-Hexyloxy-4-cyanobiphenyl, 43152-88-1, 52364-73-5, 4'-Octyloxy-4-cyanobiphenyl, 52709-85-0

RU: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of benzoate I liquid crystals)

L126 ANSWER 60 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 57125-50-5 58932-13-1 80698-14-2 120837-26-5
DOCUMENT NUMBER: 120837-27-6 120837-29-8 120837-30-1 120837-31-2
TITLE: Optically active liquid crystal compounds
INVENTOR(S): Takenara, Sadao; Fujisawa, Noburu; Ogawa, Hiroshi; Osawa, Masahisa; Shioji, Tadao
PATENT ASSIGNEE(S): Dainippon Ink and Chemicals Inc., Japan; Kawamura Physical and Chemical Research Institute
SOURCE: Jpn. Kokai Tokyo Koho, 18 pp.
CODEN: JKXXAF
PATENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
PATENT NO. DATE APPLICATION NO. DATE
JP 63175095 A 19880719 JP 1987-5147 19870114
JP 2524341 B2 19960114 JP 1987-5147 19870114
PRIORITY APPLN. INFO.: MARPAT 110:31857
OTHER SOURCE(S): GI



AB The title compound is represented by I (R = C₂-16 alkyl; X = H, F, or Cl; Z = COO, O, COO, or bond; M = (S)-2-methylbutyl; m = 1 or 2; n = 0 or 1). The direction of twisting of the R-CH(Me)O radical may be inverse to that of the Z-M radical in I. Thus, 4'-(1-methylheptyloxy)biphenyl-4-carboxylic acid (II) was prepared from 4'-hydric biphenyl-4-carboxylic acid and (R)-2-octyl-p-toluenesulfonate which was prepared from (R)-2-octanol and p-toluenesulfonfyl chloride, 4'-(1-methylheptyloxy)biphenyl-4-carboxylic acid was prepared from II and reacted with (S)-2-methoxybenzoate, which was prepared from 4-hydroxybenzoic acid and (S)-2-methylbutyl alc., to form I (R = C6H13, m = 2, n = 0, X = H, Z = COO). The liquid crystal compound prepared had 42.5 in chiral smectic C-to-smectic A transition.

IC C09K019-20
ICS C07C069-92; C07C069-94; G02F001-13
CC 75-11 (Crystallography and Liquid Crystals)
Section cross-referenc(s): 25, 74
IT 98-59-9, p-Toluenesulfonfyl chloride 99-96-7, 4-Hydroxybenzoic acid, reactions 5978-70-1, 6169-06-8, (S)-2-Octanol 261-84-62-3, 58574-03-1, 82380-18-5, 3-Fluoro-4-cyanophenoil
RU: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, liquid crystal from)

SN 10/553451 Page 61 of 163

61

SN 10/553451 Page 62 of 163

62

L126 ANSWER 61 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
 1988:104346 HCAPLUS Full-text
 DOCUMENT NUMBER: 108:104346
 TITLE: Depression of the crystal-nematic phase transition in thermotropic liquid-crystal copolymers

AUTHOR(S): George, Eric R.; Porter, Roger S.
 CORPORATE SOURCE: Polym. Sci. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
 SOURCE: Journal of Polymer Science, Part B: Polymer Physics (1988), 26(1), 83-90
 CODEN: JPBPEM; ISSN: 0887-6266

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The crystal-nematic phase transition of a copolyester consisting of 20 mol% poly(ethylene terephthalate) and 80 mol% p-hydroxybenzoic acid (PHB) was characterized by depression of the crystal-nematic transition by the addition of a liquid crystal diluent. This copolyester contains blocks of crystalline PHB. Its transition behavior was compared with that of a random copolyester with diluent of the same composition. From the extrapolated transition temperature depression data, the heat of transition per mol of PHB was calculated as approx.1.3 kcal/mol, with an entropy of approx.2 cal/deg mol. This assumes that only the PHB unit crystallized from the nematic state. The validity of the Flory-Huggins model for this transition point depression was confirmed graphically by comparison with 2 different thermotropic-liquid crystal polyesters. These results may represent the first reported crystal-nematic **transitions**, and heats generated by the dilution method for liquid crystal copolymers of this type.

CC 75-11 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 36, 69
 IT Entropy (of transition, of poly(ethylene terephthalate)-hydroxybenzoic acid copolyester-bis[(methoxycarbonyl)phenyl]terephthalate binary mixts.)
 IT Heat of transition (poly(ethylene terephthalate)-hydroxybenzoic acid copolyester-bis[(methoxycarbonyl)phenyl]terephthalate binary mixts.)

IT 25822-54-2
 RL: PRP (Properties)
 (crystal-nematic phase transition and binary mixts; of bis[p(methylcarboxylic acid)phenyl]terephthalate and)

L126 ANSWER 62 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
 1988:114933 HCAPLUS Full-text
 DOCUMENT NUMBER: 109:114933
 TITLE: Liquid-crystalline acrylate polymers

INVENTOR(S): Iinuma, Kazuyoshi; Koide, Naoyuki; Miyabayashi, Mitsuaki
 COMPANY: Mitsubishi Petrochemical Co., Ltd., Japan
 Patent
 SOURCE: JKKXAF

PATENT ASSIGNEE(S): Jpn. Kokai Tokyo Koho, 9 pp.
 DOCUMENT TYPE: FAMILY ACC. NUM. COUNT:
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62232409	A	19871012	JP 1986-75097	19860401
			JP 1986-75097	19860401

PRIORITY APPLN. INFO.: JP 79-41-4, Methacrylic acid, reactions (reaction of, with (hydroxymethoxy)benzoic acid, liquid-crystalline polymers from)

IT 99-96-7, P-Hydroxybenzoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorohexyl alc., liquid-crystalline polymers from)

IT 2009-83-8 RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with hydroxybenzoic acid, liquid-crystalline polymers from)

IT 104-87-0, p-Methylbenzaldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with methoxybenzyl cyanide, liquid-crystalline polymers from)

IT 104-47-2, p-Methoxybenzyl cyanide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with methylbenzaldehyde, liquid-crystalline polymers from)

L126 ANSWER 63 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:619080 HCAPLUS Full-text

DOCUMENT NUMBER: 107:210800

TITLE: Manufacture of aromatic polyester fibers

INVENTOR(S): Matsumoto, Tetsuo; Makita, Hirotoshi; Kagawa,

PATENT ASSIGNEE(S): Japan Ester Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 PP.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT INFORMATION: FAMILY ACC. N.R. COUNT: 1

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

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JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

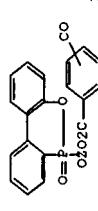
JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 62177211 A 1987-08-04 JP 1986-17501 19860129



AB High-tenacity aromatic polyesters are prepared by melt spinning thermotropic liquid-crystal-formable aromatic polyesters containing 5-95 mol% I units (2 = trivalent aromatic group) at draft ratio²⁵, passing the fibers through gas heated above the glass transition temperature (Tg) of the polyester, and finally passing them through gas heated above the glass transition temperature (Tg) of the polyester. Thus, a 2.5:7.5:2 (mole ratio) mixture of 9,10-dihydro-9-oxa-10-(2',5'-dihydroxyphenyl)phosphorphanthrene 10-oxide (II), 4-hydroxybenzoic anhydride, and acetic anhydride were copolymerized to give an aromatic polyester (III). III (Tg 265°; Tg 186°) was spun at 330° and draft ratio 25, passed through gas at 200° to give fibers with tenacity 14.7 subsequently passed through gas at 200° to give fibers with tenacity 14.7

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification, with methylbutoxy arylsulfonates)

IT 110870-88-7 110870-92-3 111523-01-4

RL: USES (Uses)

(fiber, melt spinning of, with high tenacity and modulus, draw ratio and heat-treatment temp. in relation to)

IT 40-2 (Textiles and Fibers)

OC 40-2 (Textiles and Fibers)

ICM D01F06-84

ICM D01F06-62

IC ICM .06-3

IC ICM .06-2

IC ICM .06-1

IC ICM .06-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification, with methylbutoxy arylsulfonates)

IT 1126 ANSWER 64 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:058695 HCAPLUS Full-text

DOCUMENT NUMBER: 113:58695

TITLE: Process for preparing 4-(2-methylbutyloxy)benzoic acid

INVENTOR(S): Kazynski, Piotr

PATENT ASSIGNEE(S): Politechnika Warszawska, Pol.

PATENT SOURCE: PL 19821216

PATENT DATE: 1982-04-28

PATENT NUMBER: PL 1982-239548

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification, with methylbutoxy arylsulfonates)

IT 25-17 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 75

IT Optical imaging devices (electro-, liquid-crystal, (methylobutoxy)benzoic acid enantiomers or racemate)

IT 99-96-7D, esters

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification, with methylbutoxy arylsulfonates)

IT 25-17 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 75

IT Optical imaging devices (electro-, liquid-crystal, (methylobutoxy)benzoic acid enantiomers or racemate)

IT 99-96-7D, esters

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification, with methylbutoxy arylsulfonates)

IT 1126 ANSWER 65 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:20049 HCAPLUS Full-text

DOCUMENT NUMBER: 10:20049

TITLE: Structure formation in a rigid chain Polymer

Author(s): Burzbach, Guenter D.; Wendorff, Joachim H.; Zimmermann, Hans J.

Corporate source: Dtsch. Kunststoff-Inst., Darmstadt, D-6100, Fed. Rep. Ger.

Source: Makromolekulare Chemie, Rapid Communications (1985), 6(12), 821-7

CODEN: MCRCD4; ISSN: 0173-2803

CODEN: MCRCD4; ISSN: 0173-2803

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The structure of 58:42 random 4-hydroxybenzoic acid-2-hydroxy-6-naphthoic acid copolymer [81843-32-9] was studied as well as its thermodyn. properties, employing wide-angle x-ray scattering, volumetric, and calorimetric methods. The x-ray diagrams of unoriented molten, quenched, and well-annealed samples showed crystallization taken place rapidly, and oriented samples showed a well-defined long-range partial order in the direction perpendicular to the chain axis and a somewhat less well developed order along the chain direction. The crystallinity obtained from these diagrams was approx. 30% for the unannealed and approx. 60% for the well-annealed samples. Thermoanal. showed a glass transition temperature and no volume change during the crystallization or melting. The densities of these samples at room temperature did not depend on the crystallinity.

CC 36-3 (Physical Properties of Synthetic High Polymers)

IT 81843-32-9

(Glass temperature and transition
(in hydroxynaphthoic acid-hydroxybenzoic acid copolymers))

IT PRP (Properties)

(Structure formation in)

L126 ANSWER 66 OF 85 HCAPUS COPYRIGHT 2007 ACS on STN
1985:204571 HCAPUS Full-text
102:204571

TITLE:

Phase transitions in mesophase macromolecules. V.

AUTHOR(S):

Cao, Xiao Yong; Wunderlich, Bernhard
Dep. Chem., Rensselaer Polytech. Inst., Troy, NY,
12181, USA

SOURCE:

Journal of Polymer Science, Polymer Physics Edition
(1995), 23(3), 521-35
CODEN: JPLPAY; ISSN: 0988-1273

DOCUMENT TYPE:

English

AB 4-Hydroxybenzoic acid-6-hydroxy-2-naphthoic acid copolymer (I) [81843-52-9] was studied by DSC and polarizing microscopy. Heat capacities for poly(4-hydroxybenzoic acid) [30/29-36-3], poly(6-hydroxy-2-naphthoic acid) [94857-18-8], and 3 samples of I were reported at 175-650 K. The heat capacities were additive with composition I represented as an example of a mesophase intermediate between the liquid-crystalline and the cocondensed-crystalline state with a small amount of crystallinity. The disordering transitions had a eutecticlike phase diagram. The transitions to the isotropic states occurred above the decomposition temps. (600-700 K), and the glass transitions (377-434 K) showed normal changes in heat capacity (31-34 J/K mol) but were broadened to as much as 200 K.

CC 36-3 (Physical Properties of Synthetic High Polymers)

IT Liquid crystals

(hydroxybenzoate-hydroxynaphthoate copolymers, transition
temps. of)

IT Glass temperature and transition

Heat capacity
(of hydroxybenzoic acid and hydroxynaphthoic acid polymers)

IT Polyesters, properties

(hydroxybenzoic acid-hydroxynaphthoic acid, liquid-crystalline
transitions of)

IT 26099-11-8 30/29-36-3

RL: PRP (Properties)

87257-45-2 94857-18-8

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The structure of 58:42 random 4-hydroxybenzoic acid-2-hydroxy-6-naphthoic acid copolymer [81843-32-9] was studied as well as its thermodyn. properties, employing wide-angle x-ray scattering, volumetric, and calorimetric methods. The x-ray diagrams of unoriented molten, quenched, and well-annealed samples showed crystallization taken place rapidly, and oriented samples showed a well-defined long-range partial order in the direction perpendicular to the chain axis and a somewhat less well developed order along the chain direction. The crystallinity obtained from these diagrams was approx. 30% for the unannealed and approx. 60% for the well-annealed samples. Thermoanal. showed a glass transition temperature and no volume change during the crystallization or melting. The densities of these samples at room temperature did not depend on the crystallinity.

CC 36-3 (Physical Properties of Synthetic High Polymers)

IT 81843-32-9

(Structure formation in)

IT PRP (Properties)

(Section cross-reference(s): 75)

L126 ANSWER 67 OF 85 HCAPUS COPYRIGHT 2007 ACS on STN
1985:123543 HCAPUS Full-text
103:123543

TITLE:

Synthoses and liquid crystalline properties of homologous series having quaiacyl structure as central linkage: 4-(4-n-alkoxy-3'-oxyl)benzoic acids
Kasuga, K.; Hatakeyama, H.
Ind. Prod. Res. Inst., Ibaraki, 305, Japan
Cellulose Chemistry and Technology (1984), 18(5),
469-77
CODEN: CECTAH; ISSN: 0576-9787

DOCUMENT TYPE:

English

OTHER SOURCE(S):

AB A homologous series of new liquid crystal compds. having the guaiacyl group were prepared by the oxidation of 4-n-alkoxy-3-methoxybenzaldehydes obtained from vanillin and n-alkyl bromide. Then the acids were converted to 4-(n-alkoxy-3'-methoxybenzoyl)oxybenzoic acids. New ester carboxylic acids exhibited liquid crystalline properties. Two kinds of mesophases were observed in the series of the compds. with n-alkoxy groups (n=CH₂n+1O-) from C12 to C17 but for the other compds. (C11 apprx. C11-C18), only one kind of mesophase was observed. The result obtained by DSC measurement agreed with that by microscopic anal. The transition temperature to the isotropic liquid decreased with increasing chain length of the n-alkoxy group.

CC Section cross-reference(s): 25

ST mesophase alkoxymethoxybenzoyloxymethylbenzoic acid prepn; transition
liq crystal alkoxymethoxybenzoyloxymethylbenzoic acid; benzoic acid alkoxymethoxybenzoyloxy methophase

IT 72294-39-6P 79294-40-9P 79294-41-0P 79294-42-1P 79294-43-2P
79294-44-3P 79294-45-4P 79294-46-5P 79294-47-6P 79294-48-7P
95459-56-6P 95459-57-7P 95459-58-8P 95459-59-9P 95459-60-2P
95459-61-3P 95459-62-4P 95459-63-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(liquid crystals, preparation and transition temps. of)

IT 99-96-7, reactions

IT RL: RCT (Reactant); RCT (Reactant or reagent)
(reaction of, with alkoxymethoxybenzoyl chloride)L126 ANSWER 68 OF 85 HCAPUS COPYRIGHT 2007 ACS on STN
1985:123544 HCAPUS Full-text
104:123544

TITLE:

The effect of the molecular structure of epoxy oligomers based on p-hydroxybenzoic acid on the properties of polymers
Zaitseva, N. P.; Komarov, B. A.; Kuzeev, A. I.;
Kobel'chuk, Yu. M.; Moshchinskaya, N. K.
USSR

DOCID: VKKCAJ;

Journal

Russian

LANGUAGE:

AB The effect of mol. structure or glass transition temperature (Tg), strength and deformation properties of epichlorohydrin-p-hydroxybenzoic acid copolymer (I) (41476-39-5) cured with n-Phenylenediamine [108-45-2] was studied. The Tg, elongation, elasticity modulus, bending and tensile strength of I depended on the mol. weight, and distribution of mol. weight and functional groups in the epoxy polymer. The physicomech. properties correlated well with the packing d. of the crosslinked epoxy polymer.

CC Glass temperature and transition

(of epichlorohydrin-hydroxybenzoic acid copolymer)

IT 41476-39-5

RL: USES (Uses)
(phenylenediamine-cured, physicomech. properties of)

L126 ANSWER 69 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:189529 HCAPLUS Full-text

DOCUMENT NUMBER: 86:189529

TITLE: Pr-(β-Hydroxyethoxy)benzoic acid

CRYSTALS

INVENTOR(S): Yoshida, Kiyoshi; Kishiwagi, Kozo; Yamaguchi,

Katsuniko; Yanagida, Osamu

Mitsubishi Chemical Industries Co., Ltd., Japan

SOURCE: Jpn. Tokkyo Koho, 5 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 51044937 B 19761201 JP 1967-17671

19670323

AUTHOR(S): Pepe, Rodolfo O.
CORPORATE SOURCE: Univ. nac. Tucuman, Argent.
SOURCE: Anales de la Asociacion Quimica Argentina (1921-2001) (1956), 44, 5-10

CODEN: AACQAS; ISSN: 0365-0375

DOCUMENT TYPE: Journal

LANGUAGE: German

AB cf. C. A. 24, 4285. m-HOCH₂COOH¹ (1.4 g.) in 8 ml. 3N NaOH and 2.4 g. tri-O-methyl galloylazide in 17 ml. Me₂CO mixed, then stirred 2 hrs., water and 8 ml. 3N HCl added, and the precipitate filtered off and washed with water yielded 2.7 g. m-(tri-O-methylgalloyloxy)benzoic acid (I), colorless crystals² from EtOH, m. 185°. Similarly, 1.52 g. p-HOC₆H₄CO₂Me, in 5 ml. Me₂CO yielded 2.2 g. p-[3,4,5-(MeO)₃CH₂CO₂]C₆H₄CO₂Me (II), m. 113°. (From MeOH). II is also obtained (64%) by heating 1.66 g. p-[3,4,5-(MeO)₃CH₂CO₂]C₆H₄CO₂H with 75 ml. MeOH and 1.8 ml. H₂SO₄. Similarly as is obtained the Me ester, m. 143.5°, of I. o-[3,4,5-(MeO)₃CH₂CO₂]C₆H₄CO₂Me, m. 139°.

CC IT 99-06-9, Benzoic acid,³ "m"-hydroxy-⁴ 99-96-7, Benzoic acid,⁵ 2,3,6-trihydroxy-p-hydroxy-⁶ 16534-78-4, Benzoic acid, 2,3,6-trihydroxy-(esters)

L126 ANSWER 73 OF 85 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1919165 HCAPLUS Full-text

DOCUMENT NUMBER: 1924781,2479a-1

ORIGINAL REFERENCE NO.: 1924781,2479a-1

TITLE: Replacement of reactive hydrogen atoms in sugars, hydroxyl and amino acids by the triphenylmethyl residue

AUTHOR(S): Helferich, Burkhardt; Moog, Ludwig; Junger, Adolf (Abteilung) B: Abhandlungen der Deutschen Chemischen Gesellschaft

SOURCE: B: Abhandlungen (1925), 58B, 872-886

CODEN: BDCEAD; ISSN: 0365-9488

DOCUMENT TYPE: Journal

OTHER SOURCE (S): Unavailable

CARREACT 19:19165

AB cf. C. A. 19, 250. The preparation of PhIC ethers has been extended to other sugars besides α -Me glucose. The crystalline compound (I) obtained from d-glucose readily yields a tetra-A c derivative (II) different from that obtained by treating with Ac₂O the original C₆H₅N solution of glucose and Ph₃COCl without first isolating the I. Both acetates give acetodibromoglucose with PB₅, whence it is concluded that they are derivs. of 6-triphenylmethyl-

α - and β -D-glucose, resp., an assumption in harmony with the fact that the crystalline I shows (decreasing) mutarotation. The PhIC residue is very sensitive not only to acids but, unlike all other ethers of Ph₃COH hitherto prepared, to alkalies in MeOH also. I and the corresponding galactose derivative (III) are soluble in many organic solvents, and are readily converted back into the free sugars. A triphenylmethyldmonoacetate-glucone was prepared and isolated as the di-Bz derivative (IV) (not yet definitely shown to be homogenous). Triphenyl-d-gluconic phenylhydrazide (V) and Ph₃C derivatives of various HO and NH₂ compds. were likewise obtained. In the preparation of these ethers there is often formed as by-product a pure white crystalline substance (VI) which is apparently an addition product of Ph₃COH and HCl (or Ph₃CCl and H₂O). I (30 g.) together with 5 g. VI, from 36 g. glucose in 180 cc. absolute C₆H₅N and 58 g. Ph₃CCl kept 1-2 days at room temperature, needles with 2 EtOH, and begins to sinter 45°, m. 57-8°; anhydrous, it begins to sinter 60°; softens more and more and finally evolves gas at 100°. (a) D22 in C₆H₅N, 59.6° (initial), 38.0° (final, after 90 hrs.) reduces hot Fehling solution; hydrolyzed by HCl in solution (MeOH, Et₂O, CRC13) or by 0.5 alc. NaOH to glucose and Ph₃COH. III (yield, about 30%), contains 1 mol.

at 67° over P205, m. (air-dry) 73.5°, [α]D22 in C₆H₅N 0.58° (initial), 2.24° (final after 20 hrs.); the dried product begins to sinter 76° and de-comp. about 108°. Tetra-A c derivative of I, m. 129-31°, [α]D22 97.8°, [α]D22 97.4° (C₆H₅N); β -isomer (yield, about 27%), m. 163-4°, [α]D19 44.8°, [α]D28 45.3° (C₆H₅N). IV, needles m. sometimes 78-9°, sometimes 97-9°, [α]D21 in C₆H₅N -4.5° and -4.0°, resp., reduces Fehling solution only after hydrolysis with 1% HCl in MeOH in 20 hrs. at room temperature and by boiling 5% alc. KOH in 30 min. to the K salt (yield, 71%), decomps. 138.9°, (α)D24 7.7°. (Me₂CO). Tetra-Bz derivative of V (yield, 60%), siners 168°, m. 173°. (α)D18 36.2° (C₆H₅N), rapidly loses the Ph₃C residue in MeOH or CRC13 containing HCl. P-Hydroxybenzoic anhydride mono-[triphenylmethyl] ether (?), C₃H₂CO₅, (0.6 g. from 2 g. P-HOC₆H₄CO₂H and 4 g. Ph₃CCl in boiling C₆H₅N), m. 219-20°, mol. weight in boiling (CH₂Br)₂ 484-6. Et β -triphenylmethoxypropionate (yield, 48%), m. 104.5°; 1% HCl in MeOH hydrolyzes both the ether and ester, alc. KOH only the ester grouping, giving 90% of the free acid, m. 163-4°, whose Na salt m. 258-9°. Phocph3 (yield, 28%), m. 103°. Triphenylcarbinol-HCl (VI), best obtained from Ph₃CCl in C₆H₅N with 1 mol. H₂O, m. 174°, smoothly yields Ph₃COEt on recrystn. from EtOH and in the air gradually decomps. into Ph₃COH and HCl. Bis(triphenylmethyl)urea (2.8 g. from 0.5 g. urea and 4.7 g. Ph₃CCl in C₆H₅N on the H₂O bath), needles with 2EtOH, m. 245°, unchanged by 3 hrs., boiling with 10% alc. KOH but hydrolyzed by boiling 0.5 hr. with 2% HCl in MeOH. Triphenylmethyliothiourea, from equivalent amts. of Ph₃CCl and CS(NH₂)₂ in hot C₆H₅N, m. 222° (decomposition). Et N-triphenylmethylglycocol (yield, 61%), m. 114°, loses both the ether and ester groups on boiling 1 hr. with 10% alc. KOH but 2% alc. KOH after 2 days at room temperature yields the free acid (66%), m. 168°, decomps. above 180°, loses the Ph₃Cl group when boiled 0.5 hr. with 10% alc. KOH; Na salt, needles with about 3 MeOH, m. below 100°, solidifies and m. again 265-6°; Cu salt, lila crystals with 3 MeOH, begins to become pale about 100°, turns green and decomps. about 159°. Et N-triphenylmethyl-dl-alanine (yield, 43%), m. 100°, both the ether and ester groupings are hydrolyzed after 2 hrs., boiling with 5% alc. KOH but after 15 min. is obtained the free acid, crystals with 0.5% EtOH, m. 245°, Na salt, hygroscopic. Et N-triphenylmethylglycylglycine (yield, 54%), m. 161°, free acid (yield, 60%), m. 180°; Na salt, becomes discolored around 250°, does not m. 300°. N-Triphenylmethyldiphenylamine, m. 240°, mol. weight in boiling PhMe 403-64; the PhIC residue cannot be split off with either acids or alkalies; concentrated H₂SO₄ dissolves it partially and slowly but without hydrolysis.

CC 10 (Organic Chemistry)

IT 1028-44-1P, d-Glucose, tetraacetyl-6-triphenylmethyl-, α -Methylaniline, N,N,acpentaphenyl-37074-90-5P, d-Glucose, tetraacetyl-6-triphenylmethyl-, β -54325-28-9P, d-Glucose, 6-triphenylmethyl-, α -76758-01-5P, Urea, triphenylmethylmethyl-, 857214-58-5P, Carbonyl triphenyl-, -HCl 861307-11-1P, Benzoic acid, p-hydroxy-, anhydride with α -triphenylanilinic acid 861307-11-1P, Anisic acid, hydroxybenzoic acid 861307-11-1P, Benzoic anhydride, p-hydroxy-p'-triphenylmethoxy-894765-68-5P, d-Glucose, G-triphenylmethyl-, β -RL: PREP (Preparation) (preparation of)

STN
ACCESSION NUMBER: 2003:266832 BIOSIS Full-text
DOCUMENT NUMBER: PRE200300266832
TITLE: Granules of 2-hydroxynaphthalene-3-carboxylic acid and method for preparing the same.
AUTHOR(S): Dono, Ryozo [Inventor]; Reprint Author;
Kitayama, Masaya [Inventor]; Iizumichi,
Robutaka [Inventor]; Nara, Syungo [Inventor];
Kitatani, Masaharu [Inventor]
CORPORATE SOURCE: Nishinomiyaya, Japan
ASSIGNEE: Kabushiki Kaisha Ueno Setylako Oyo Kenkyujyo,
Osaka, Japan
PATENT INFORMATION: US 6562998 20030513
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, May 13 2003) Vol. 1270, No. 2.
<http://www.uspto.gov/web/menu/patdata.html>. e-file.
ISSN: 0098-1133 (ISSN Print).

DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 4 Jun 2003
Last Updated on STN: 4 Jun 2003

AB Granular product of 2-hydroxynaphthalene-3-carboxylic acid with well-suppressed dusting tendency, and process for preparing the same is provided. Granular product of 2-hydroxynaphthalene-3-carboxylic acid having an average particle size of 150 µm or more and a hardness of 70-3000 g, and a process for preparing the same comprising the steps of dry compressing powdered 2-hydroxynaphthalene-3-carboxylic acid to give compressed material and pulverizing and classifying the same.

L126 ANSWER 75 OF 85 WPIX COPYRIGHT 2007
AN 2006-09094 [09] WPIX Full-text
DNC C2006-032933 [09]
TI Pharmaceutical co-crystal for pharmaceutical composition to treat, e.g., epilepsy, includes active pharmaceutical ingredient from, e.g., 4-aminobenzoic acid carbamazepine, and co-crystal former from, e.g., 4-aminobenzoic acid.
B05 DC BOURGHOUL HICKEY M; MCMAHON J; PETERSON M; SHATTOCK T; ZAMOROTKO M J
PA (TRAN-N) TRANSFORM PHARM INC
CYC 109
P1 WO 2006007448 A2 20060119 (200609) EN 149[20]
ADT WO 2006007448 A2 WO 2005-US21662 20050616
PRA1 US 2004-5218701P 20041117
US 2004-580661P 20040617
US 2004-585808P 20040706
US 2004-521185P 20041022
IPC1 A61K036-17 [1, A]
AB WO 2006007448 A2 UPAB: 20060206
NOVELTY - A pharmaceutical co-crystal comprises an active pharmaceutical ingredient (API) from carbamazepine, glyburide, fluconazole, oxcarbazepine, Piracetam, or stavudine and a co-crystal former from 4-aminobenzoic acid, TRIS, maleic acid, gentisic acid, 4-hydroxybenzoic acid, acetylsalicylic acid, cinnamic acid, melamine, or 2-aminoypyridine.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(A) a pharmaceutical composition comprising the inventive pharmaceutical co-crystal, a diluent, excipient, or carrier;
(B) a method for treating a subject with epilepsy, trigeminal neuralgia, memory loss, inflammation, or another condition where carbamazepine, oxcarbazepine, glyburide, Piracetam, stavudine, or gentisic acid is an effective active pharmaceutical for said condition, comprising administering to the subject (human) a therapeutically effective amount of a co-crystal of carbamazepine, oxcarbazepine, glyburide, Piracetam, stavudine, or gentisic acid; and
(C) a process for preparing a pharmaceutical co-crystal comprising an API and a co-crystal former, comprising providing an appropriate solvent and the API and the co-crystal former that is a solid at room temperature;
grinding the API, the co-crystal former, and a small amount of the appropriate solvent, to form a solid phase; isolating co-crystals; and incorporating the co-crystals into a pharmaceutical composition.

ACTIVITY - Anticonvulsant; Nootropic; Antiinflammatory.

MECHANISM OF ACTION - None given.

USE - For a pharmaceutical composition used in treating a subject with epilepsy, trigeminal neuralgia, memory loss, inflammation, or another condition (claimed).

ADVANTAGE - The invention improves the properties of active pharmaceutical agents and is capable of co-crystallizing from a solid or solution phase under crystallization conditions.

DESCRIPTION OF DRAWINGS - The figure shows a spectrum for stavudine:nalamine co-crystal.
CPI: B04-B03D; B06-D12; B07-H; B10-A13D; B10-B02A; B10-C02; B10-C03; B10-C04C; B12-M1H; B14-C01; B14-C03; B14-J01A4; B14-J07 TECH

PHARMACEUTICALS - Preferred Component: The co-crystal is characterized by single-crystal x-ray data, where the co-crystal is a carbamazepine:4-aminobenzoic acid co-crystal. It is characterized by melting point, where the co-crystal is a carbamazepine:4-aminobenzoic acid co-crystal and the melting point is 185-187degreesC. It can be carbamazepine:4-aminobenzoic acid:water co-crystal and the melting point is 143degreesC. It can be fluconazole: maleic acid co-crystal. The co-crystal is a fluconazole: maleic acid co-crystal and the melting point is 86degreesC. It is glyburide:TRIS co-crystal and characterized by a powder x-ray diffraction pattern comprising peaks expressed in terms of 2-theta angles. It is a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises peaks at 8.19, 15.43, and 19.07degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises peaks at 13.99, 22.01, and 26.41degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises peaks at 5.29, 8.19, 12.23, 13.99, 15.43, 19.07, and 22.01degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises peaks at 8.19 and 15.07degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises peaks at 8.19 and 15.43degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises peaks at 5.29 and 23.21degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises a peak at 8.19degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises a peak at 5.29degrees; a glyburide:TRIS co-crystal and the X-ray diffraction pattern comprises a peak at 22.01degrees; or a glyburide:TRIS co-crystal and the X-ray diffraction pattern is as shown in Figure 3. It is characterized by a DSC thermogram, where the co-crystal is a glyburide:TRIS co-crystal and the DSC thermogram comprises an endothermic transition at 140degreesC, or by TGA thermogram, where the co-crystal is a weight loss of 20-150-200degreesC. The co-crystal is a Piracetam:gentisic acid

co-crystal and is characterized by a powder X-ray diffraction pattern comprising peaks expressed in terms of 2-theta angles. The co-crystal is characterized by single-crystal X-ray data. It is a piracetam:4-hydroxybenzoic acid co-crystal. Preferred Property: The single crystal data comprise M = 609.67, monoclinic C2/c, $a=31.013(3)$ Angstrom, $b=12.1319(9)$ Angstrom, $c=13.599(1)$ Angstrom, alpha=90degrees, beta=99.173(1)degrees, gamma=90degrees; V=6028.4(8) cubic angstroms, T=100degreesK, Z=8, and Dc=1.343 g/cm³; a=31.013(3) Angstrom, b = 12.1319(9) Angstrom, c = 13.599(1) Angstrom, alpha=90degrees, beta=99.173(1)degrees, and gamma=90degrees; or V=6028.4(8) cubic angstroms, N-H...O carbonylic acid co-crystal is 2.54 Angstrom. The interaction distance between the nitrogen atom and the oxygen atom for the O-H...O carbonylic acid co-crystal is 2.54 Angstrom. The interaction distance between the nitrogen atom and the oxygen atom for the carbamazepine:4-amino benzoic acid co-crystal is 2.88 Angstrom. The single amino benzoic acid co-crystal data comprise M=627.66, monoclinic P2(1)/n, $a=13.76(1)$ Angstrom, $b=17.457(1)$ Angstrom, $c=14.624(1)$ Angstrom, alpha = 90degrees, beta=115.876(1)degrees, gamma=94.530degrees, Z=4; a = 36.519 g/cm³. The co-crystal data comprise M=627.66, monoclinic C2/c, $a=31.013(3)$ Angstrom, $b=12.1319(9)$ Angstrom, $c=13.599(1)$ Angstrom, alpha=90degrees, beta=99.173(1)degrees, gamma=90degrees; or V=3160.8(4) cubic angstroms and Dc=1.343 g/cm³. The co-crystal data comprise M=627.66, monoclinic C2/c, $a=36.519(6)$ Angstrom, $b=17.457(6)$ Angstrom, $c=12.771(7)$ Angstrom, beta=94.530 degrees. The single crystal data comprise monoclinic C2/c, $a=27.896(3)$ Angstrom, $b=17.62(5)$ Angstrom, $c=11.7879(18)$ Angstrom, alpha=90degrees, beta=101.090(2)degrees, gamma=90degrees, V=2803.9(4) cubic angstroms, T=100(2)degrees, and $\delta\theta=27.895(3)$ Angstrom, $\alpha=19.7879(18)$ Angstrom, alpha=90degrees; or V=2803.9(4) cubic angstroms. The co-crystal is a piracetam:gentisic acid co-crystal and the melting point is 124degreesC. The co-crystal is a piracetam:gentisic acid co-crystal, and the X-ray diffraction pattern comprises peaks at 12.70, 14.08, and 16.96degrees; piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises peaks at 12.70, 14.08, 16.36, and 27.94degrees; a piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises peaks at 12.70 and 16.96degrees; piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises peaks at 16.96 and 24.79degrees; a piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises peaks at 12.70, 14.08, 16.96, 24.79, 27.94, and 32.46degrees; a piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises peaks at 12.70, 14.08, 16.36, and 27.94degrees; a piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises peaks at 14.08degrees; a piracetam:gentisic acid co-crystal and the X-ray diffraction pattern comprises a peak at 16.96degrees; or a piracetam:gentisic acid co-crystal and the X-ray diffraction pattern is as shown in Figure 6. The co-crystal is characterized by an IR spectrum comprising peaks expressed in terms of cm⁻¹. The IR spectrum comprises peaks at 1651, 1467, and 1221 cm⁻¹; at 1467, 1294, and 1033 cm⁻¹; or at 831, 762, and 681 cm⁻¹. The single crystal data comprise monoclinic P2(1)/n, $c=14.780(3)$ Angstrom, $a=5.5029(12)$ Angstrom, $c=17.068(4)$ Angstrom, alpha=90degrees, beta=109.557(4)degrees, gamma=90degrees, V=1308.0(5) cubic angstroms, T = 100(2)degreesK, and Z=2; or V=11.780(3) Angstrom, $b=5.5029(12)$ Angstrom, $c=17.068(4)$ Angstrom, alpha=90degrees, beta=109.557(4)degrees,

gamma=90degrees; or monoclinic P2(1)/n and V = 1308.0(5) cubic angstroms. The co-crystal is a piracetam:4-hydroxybenzoic acid co-crystal and the melting point is about 141-142degreesC. The co-crystal is a

piracetam:4-hydroxybenzoic acid co-crystal and is characterized by a powder X-ray diffraction pattern comprising peaks expressed in terms of 2-theta angles. The X-ray diffraction pattern comprises peaks at 6.53, 13.48, and 20.42degrees; at 6.63 and 13.48degrees; at 13.48 and 20.42degrees; at 13.48degrees; or as shown in Figure 9.

The co-crystal is characterized by a DSC thermogram, where the co-crystal is a piracetam:4-hydroxybenzoic acid co-crystal and the DSC thermogram comprises an endothermic transition at 143degreesC. It is characterized by an IR spectrum comprising peaks expressed in terms of cm⁻¹. The IR spectrum comprises peaks at 1658, 1596, and 1243 cm⁻¹; at 1265, 1165, and 769 cm⁻¹; or at 1658, 1243, and 769 cm⁻¹.

L1.26 ANSWER 76 OF 85 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN AN 2004-433692 [41] WPIX Full-text

DNC C2004-162876 [41] DNN N2004-342733 [41] TI New phenyl benzamide compound, used as electric charge control agent for toner, has positively charging property used for developing electrostatic latent image

DC A89; E14; G03; P84; S06 IN ANZAI M; NAKAJIMA T; OTSUKA H; SUZUKI N PA (HODO-C) HODOGAYA CHEM IND CO LTD CIC 1 PI JP 2004123705 A 20040422 (200441) * JA 38[6] ADT JP 2004123705 AJP 2003-179144 20030624 PRA1 JP 2002-219649 20020729 IC ICN C07C235-16 ICS G03G09-08; G03G09-083; G03G09-087; G03G09-10;

AB NOVELTY - Phenyl benzamide compound (I) is new:
DETAILED DESCRIPTION - Phenyl benzamide compound of formula (I) is new.
INDEPENDENT CLAIMS are also included for the following:
X1 = fluorine atom, fluorine-substituted alkyl group or fluorine-substituted alkoxy group;
X2 = hydrogen, halogen atom, halogenated alkyl group; and
group; and

R = hydrogen atom, carboxymethyl group or 1-carboxyethyl group.
INDEPENDENT CLAIMS are also included for the following:
(1) electric charge control agent, which contains (I) as active ingredient;
(2) toner having positively charging property, which contains (I),
coloring agent and binder resin;

(3) one component-type developing agent, which consists of toner having positively charging property; and
(4) two component-type developing agent, which consists of toner having positively charging property and a carrier.

(1) electric charge control agent for toner having positively charged property used for developing agent (all claimed) which develops electrostatic latent image formed in electrophotographic and electrostatic recording methods.

(2) toner having positively charging property, which contains (I),
coloring agent and binder resin;

(3) one component-type developing agent, which consists of toner having positively charging property; and
(4) two component-type developing agent, which does not sublime, decompose melt,

The compound provides an electric charge control agent with excellent electric charge controlling characteristics, thermal stability and durability. It provides toner with improved electrical charging property, fixing property, offset property and enables toner to form clear image stably with improved dot reproducibility and at high density. The toner does not have image fogging.

The phenyl benzamide compound does not contain heavy metals, hence prevents environmental pollution.

MC CPI: A12-L05C2; E10-C04C; E10-D03D; G06-G05

EPI: S06-A04C

TECH INORGANIC CHEMISTRY - Preferred Compounds: The coloring agent is a

magnetic substance or non-magnetic substance. The magnetic substance is magnetic iron oxide.

ORGANIC CHEMISTRY - Preferred Composition: The phenyl benzamide compound is preferably a compound of Formula (III).

X1 = fluorine atom, fluorine-substituted alkyl group or fluorine-substituted alkoxy group; and R = hydrogen atom, carbonylmethyl group or 1-carboxyethyl group.

The toner contains 0.1-10 mass parts, preferably 0.5-5 mass parts of phenyl benzamide compound which is added internally to the toner particle, and 10-200 mass parts of magnetic coloring agent or 0.1-20 mass parts of non-magnetic coloring agent, and further contains 0.2-20 mass parts of wax with respect to 100 mass parts of binder resin.

POLYMERS - Preferred Resins: The toner of the two component-type developing agent contains styrene acrylic-type resin as binder resin. The carrier of two component-type developing agent is a resin-coated carrier. The resin-coated carrier consists of a carrier core paper coated with resin(s) chosen from polyvinylchloroethylene, monochloro trifluoro

ethylene polymer, polyvinylidene fluoride, silicone resin, Polyvinyl butyral and amino acrylate resin.

Preferred Properties: The electric charge control agent has volume mean particle diameter of 0.1-20 microns. The binder resin has acid value of 0.1-100 mg KOH/g, preferably 0.1-50 mg KOH/g, and glass transition temperature of 35-80 degrees C. The toner has volume mean particle diameter of 2-15 microns, preferably 3-12 microns. The wax has melting point of 70-140 degrees C.

1126 ANSWER 77 OF 85 WPIX COPYRIGHT 2007
THE THOMSON CORP on STN
AN 2003-040830 [03] WPIX Full-text

DNC 2003-009809 [03]

INN N2003-031981 [03]

TI Particulate para-hydroxybenzoic acid or ester, useful for liquid crystal polyesters and as mold preventer for make-up, is prepared by molding a dry powder of the acid or ester, crushing and classifying

DC A41; D21; E14; L03; U11; U14

IN IZU-MITSUHI N; IKUMICHI N; KIKUO M;

KITTAKA M; SENCHI N;

PA (IZUMI-I) IZUMICHI N; (KITA-I) KITAYAMA M; (KITT-I) KITTAKA M; (UENO-I)

UENO R; (UNIS-C) UENO SEIYUKU OYO KENKYUSHO KK

CYC 30

PI WO 2002085835 A1 20021031 (200303)* JA 23 [01]

JP 200216869 A 20021031 (200304) JA 11

BR 2002005089 A 20030318 (200325) PT

KR 2003019438 A 20030306 (200345) KO

US 20030162025 A1 20030328 (200357) EN

EP 1380563 A1 20040114 (200410) EN

US 6673962 B2 20040106 (200411) EN

CN 1463265 A 20031224 (200421) ZH

TW 583020 A 20040411 (200468) ZH

IN 2002002158 P4 20050225 (200546) EN

MX 200300620 A1 20040801 (200548) ES

B 20050805 (200604) ES

C 20060322 (200660) ZH

CO/C065-00

AU 1246285 C 20060322 (200651) EN

AU 2001084189 A 20020322 (200251) EN

AU 2002019590 A1 20020314 (200240)* EN 40 [0]

PI WO 2002019590 A1 20020314 (200240)* EN 40 [0]

AU 2001084189 A 20020322 (200251) EN

THE THOMSON CORP on STN

AN 2002-371855 [40] WPIX Full-text

DNC C2002-105215 [40]

TI Pharmaceutical modified release formulation comprises active substance and modified water-soluble polysaccharide

DC A46; B05; B07

IN EKLUND M; LOFROTH J; SKANTZE U

PA (ASTR-C) ASTRAZENECA AB; (ASTR-C) ASTRAZENECA UK LTD; (EKL-U-I) EKLUND M;

(LOFR-I) LOFROTH J; (SKAN-I) SKANTZE U

CYC 96

PI WO 2002019590 A1 20020314 (200240)* EN 40 [0]

AU 2001084189 A 20020322 (200251) EN

THE

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for

production of the particulate, comprising dry compacting a powder of para-hydroxybenzoic acid or ester to form a molding, pulverizing and classifying.

"SS" - Raw material for macromolecular materials, in particular for

liquid crystal polyesters, and as a mold preventer for make-up and industrial use.

ADVANTAGE - The particulate exhibits remarkably inhibited flying off

and caking, and has good handling, such as during transportation, when there

is no return to the original fine particles. Environmental pollution and the

effect on the human body are greatly reduced. The polyesters have high

strength and high elastic modulus.

MC CPI: A01-E13; A01-B14; D08-B01; E10-C03; E11-R02; U103-D01D1

EPI: U11-A03A; U14-K01.

TECH ORGANIC CHEMISTRY - Preferred Particulate: The proportion of particles

which pass through 74 μm mesh is at most 15 wt. % of the total particles.

The powdering ratio is at most 3%. The angle of repose is 30-50 degrees,

The particulate has 0.5-0.85 g/cm³ slack specific wt. (Ws), 0.35-0.9 g/cm³

solid specific wt. (Ws) and at most 10% compaction degree

((Ws-Ws)/(Ws))x100. The particulate is obtained by dry compacting

(especially at 0.2-2.0 ton/cm pressure) a powder of para-hydroxybenzoic

acid or ester to form a molding, pulverizing and classifying.

Preferred Material: The para hydroxybenzoic acid c. ester powder contains

at most 20% water.

1126 ANSWER 78 OF 85 WPIX COPYRIGHT 2007

THE THOMSON CORP on STN

AN 2002-371855 [40]

WPIX Full-text

DNC C2002-105215 [40]

TI Pharmaceutical modified release formulation comprises active substance and

modified water-soluble polysaccharide

DC A46; B05; B07

IN EKLUND M; LOFROTH J; SKANTZE U

PA (ASTR-C) ASTRAZENECA AB; (ASTR-C) ASTRAZENECA UK LTD; (EKL-U-I) EKLUND M;

(LOFR-I) LOFROTH J; (SKAN-I) SKANTZE U

CYC 96

PI WO 2002019590 A1 20020314 (200240)* EN 40 [0]

AU 2001084189 A 20020322 (200251) EN

- NOVELTY -** Pharmaceutical modified release formulation comprises a pharmacologically active substance and a modified water-soluble polysaccharide (PS) obtained by:
- (a) forming a precipitate of a wPS by contacting a solution of the PS with a solvent in which the PS is poorly soluble or insoluble; or
- (b) milling a wPS.
- USE -** Used for formulating active agents such as butyl **paraben** (**P-hydroxybenzoic acid**), the sodium salt of the RBC-CoA reductase inhibitor fluvastatin, the thrombin inhibitor as in WO97/23459, glycine, N-(1-cyclohexyl-2-((4-(4-hydroxymethyl)aminomethyl)-phenyl)methyl)aminocarbonyl)-*l*-aspartidyl)-2-octoylethyl ester, (S-(Rasterisk,Sasterisk))¹, the beta-blocker metoprolol and, felodipine.
- ADVANTAGE -** The modified release formulation has good compaction properties and a high tablet hardness. Many of the modified PSs are not sensitive to surface active agents (e.g. bile salts and lipids) or increased ionic strengths due to the presence of salts, present either as part of the formulation or in an external dissolution medium (e.g., the gastrointestinal contents).
- CPI: A03-A00A; A12-V01; B04-C02A2; B04-C02D; B06-D01; B07-D01;
- MC TECH POLYMERS - Preferred Components: The wPS comprises hydroxyethylcellulose, locust bean gum, tragacanth gum or guar gum. The modified wPS is obtained by forming a precipitate of a wPS by contacting a solution of the PS in a first solvent with a solvent in which the PS is poorly soluble or insoluble. The wPS has a tablet hardness of more than 6kP.
- ORGANIC CHEMISTRY - Preferred Components: The first solvent for the PS is water, formic acid, dimethyl sulfoxide or methyl formamide. The first solvent is miscible in all proportions with the solvent in which the wPS is poorly soluble or insoluble. The solvent in which the wPS is poorly
- ADT EP 1322293 A1 20030702 (200344) EN**
US 2004022850 A1 20040205 (200411) EN
JP 2004058322 W 20040318 (200442) JA 68
EP 1322293 B1 20050927 (200563) EN
DE 60123447 E 20061109 (200675) DE
ADT WO 2001-963156 20010830; AU 2001084189 A; AU 2001-84189
2001-963156 20010830; EP 2001-93156 20010830; EP 1322293 B1 EP
2004022850 A1 WO 2001-GB3861 20010830; JP 2001-GB3861
20010830; EP 1322293 B1; WO 2001-GB3861 20010830; JP 2004508322 W WO 2001-GB3861
60123447 20010830; US 2004022850 A1 WO 2003-362261 20030701; DE
DE 60123447 E WO 2001-623447 20010830; DE 60123447 EP 2001-963156 20010830;
FDT AU 2001084189 A; Based on WO 2002-019990 A; EP 1322293
WO 2002019990 A; JP 2004058322 W Based on WO 2002019990 A; EP
1322293 B1 Based on WO 2002019990 A; DE 60123447 E Based on EP
1322293 A; DE 60123447 E Based on WO 2002019990 A
PRAI SE 2000-3125 20000505
IC ICM A61K047-36
ICS A61K031-138; A61K031-198; A61K047-38; A61K031-397; A61K031-404; A61K031-4422;
A61K045-00; A61K045-00; A61K045-00; A61K045-00; A61K031-16; A61K039-20
IPCI A61K009-20 [I,A]; A61K009-20 [I,A]
IPC8 A61K0031-138 [I,A]; A61K0031-138 [I,C]; A61K0031-185 [I,C]; A61K0031-198
[I,L,A]; A61K0031-397 [I,L,A]; A61K0031-397 [I,C]; A61K0031-403 [I,C];
A61K0031-404 [I,A]; A61K0031-4422 [I,A]; A61K0031-4422 [I,C]; A61K0045-00
[I,A]; A61K0045-00 [I,C]; A61K0047-36 [I,A]; A61K0047-36 [I,C]; A61K0047-38 [I,A]; A61K0047-38 [I,C]; A61K0009-16 [I,A]; A61K0009-16
[I,C]; A61K0009-20 [I,A]; A61K0009-20 [I,C]; A61K0009-22 [I,A];
A61K0009-22 [I,C]
AB WO 2002019990 A1 UPAB: 20050502
NOVELTY - Pharmaceutical modified release formulation comprises a pharmacologically active substance and a modified water-soluble (wS)
- ADT EP 1322293 A1 20030702 (200344) DE 29[0]**
DNC C2002-033032 [15]
DNW N2002-079520 [15]
T1 New polymerizable liquid crystalline compounds, used e.g. in optical filters, coating materials or effect pigments, have two phenyl groups each substituted with two crosslinkable groups and attached to a mesogenic group
DC A01; D21; E13; E24; G02; L03; P78; P81; U14
IN HARENZA S; PARKER R; PRECHTL F; SCHMIDT H W; SCHMITT G; SCHNEIDER NJ; SCHURMAYER P
PA (BADI-C) BASF AG
- CYC 28**
PI DE 10016524 A1 20011004 (200215)* DE 29[0]
EP 1142863 A2 20011010 (200215) DE
CPN C07C069-94
UP 2002030042 A 20020129 (200224) JA 31
C07C069-92
T1
US 6699405 B2 20040302 (200417) EN
C09K019-52
US 6793986 B2 20040322 (200462) EN
C09K019-52
ADT DE 10016524 A1 DE 2000-10016524 20000403; EP 1142863 A2 EP 2000036285 A1 US
20010402; EP 2002030042 A JP 2001-05108 20010403; US 2001-844022 20010403; US
20040075080 A1 Cont of US 2001-824022 20010403; US 6793986 B2 Cont of US
2001-824022 20010403; US 20040075080 A1 US 2003-678111 20031006; US
FDT US 20040075080 A1 Cont of US 6699405 B; US 6793986 B2 Cont of US 6699405 B
PRAI DE 2000-10016524 20000403
IC ICS C07C069-94; C09K019-00; C09R019-20; C09R019-52
AB DE 10016524 A1 UPAB: 20050502
NOVELTY - New polymerizable liquid crystalline compounds with two disubstituted phenyl groups attached to a mesogenic group via single bonds, ether, thioether, ester, amide or similar linking groups, in which the two substituents on each phenyl group are crosslinkable groups.
- DETAILED DESCRIPTION -** Polymerizable liquid crystalline (LC) compounds of formula (1) are new.
 A1, A2 = crosslinkable groups?

X = a single bond, -O-, -S-, -O-N-, -O-C-, -OCO-, -CONR-, -NRCOO-, -NRCO-, -OCONR-, -NRCOO-, -CH2O- or -NRCONR-, R = H or 1-4C alkyl; and M = a mesogenic group.

INDEPENDENT CLAIMS are also included for the following:

- (a) A method for the production of (I) by reacting a compound of formula (III) with a mesogenic compound of formula X'-M-X', (IV).
- (b) Compositions containing (I) and optionally other components selected from cholesteric (optionally crosslinkable) compounds, inorganic pigments, coloring agents and optionally polymerizable diluents or supports.
- (c) Pigments containing (I) in crosslinked form.
- (d) Coating materials containing such compositions or pigments.

USE - For the production of optical elements, especially e.g. filters and polarisers, coating materials, effect films, cosmetic materials and single- or multi-layer cholesteric effect pigments (Claimed).

ADVANTAGE - Improved crosslinking of LC polymers with a high crosslink density and a stabilized LC phase.

CPI: A01-E11; D08-B; E07-A03A; E07-B02; E07-D01; E10-A11B1; E10-A13B1; E10-A14A; E10-A20R; E10-B01; E10-B02; E10-B03; E10-B04; E10-D03; E10-G02A1; E10-H01; E10-H03; E10-J01; E10-J02B3; G02-A02B; G02-A05; I03-D01D1; L03-002;

EPI: U14-K0A1C

L126 ANSWER 80 OF 85 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

AN 1995-52980 [45] WPIX Full-text

CR 1995-375175

DNC C1999-155946 [45]

TI Masked polyisocyanates, obtained from hydroxyaromatic compounds for powder coating compositions.

DC A23; A25; A60; A82; G02;

IN ARDAUD P; BERNARD J

PA (RHOD-C); RHODIA CHIM

CYC I7

PI EP 943638 A2 19990922 (199945)* FR 10[0] CO8G018-80

ADT EP 943638 A2 Div Ex EP 1995-400934 19950426; EP 943638 A2 EP 1999-112178

FDT EP 943638 A2 Div ex EP 680984 A

PRAI EP 1994-5436 19940504

IC CO8G018-80

AB EP 943638 A2 UPAB: 20050522

NOVELTY - Masked polyisocyanate is obtained by polycondensation of an isocyanate with an aromatic derivative which is hydroxylated on the ring and which has a group with a function selected from carboxylic acids and nitriles. The polyisocyanate has an (apparent) melting point of at least 30degreesC and a Tg of at least 10degreesC.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for method for synthesizing masked (poly)isocyanate as claimed; and powder composition containing at least one said polyisocyanate.

USE - In making powder compositions for use in coatings (claimed). ADVANTAGE - It is easier to define the melting point and the Tg of polyisocyanate than in previous work.

CPI: A02-C; A05-G01A; A05-G01E1; A12-B01K; G02-A02H; G02-A05

TECH MC

ORGANIC CHEMISTRY - Preferred Polyisocyanate: The polyisocyanate contains at least one masked isocyanate group as claimed which is linked to the compound skeleton by sp3 carbon with preferably 2 H atoms. Claimed polyisocyanates include compounds of biuret type and trimers of polymethylene diisocyanate; claimed isocyanate involved in synthesis being

(trimer of) hexamethylene diisocyanate. Hydroxylated aromatic derivative has formula Ar(R)n(Y - 2)m(OH)P (I), in which

Ar = aromatic group;

R = hydrocarbon group, generally alkoy, preferably methyl or most preferably H;

n = number of sites on Ar which can be substituted, generally P = n + m + P = number of sites on Ar which can be substituted, generally P = 1 and m = 2.

The (apparent) melting point of polyisocyanate is preferably at least 50degreesC.

Preferred Composition: Composition comprises the polyisocyanate in powder form, catalyst based on zinc or tin, and powdered polyol.

Preferred Method: Masked isocyanate is synthesized by contacting hydroxylated aromatic derivative with isocyanate at temperature at most 10 degreesC and precipitating compound using a polar solvent of 4-20C alkane or alkene type.

THE THOMSON CORP on STN

AN 1997-322139 [30] WPIX Full-text

DNC C1997-1004238 [30]

T1 Antiferroelectric compounds for large scale displays, e.g. televisions - produced from an optically active alcohol having a tri-fluoromethyl group on an asymmetric carbon and having a terminal alkoxy group

DC E14; L03; P81

JOHNO M; KINO; MINETA H; TOKIYAMA T; YUI T

(MITN-C) MITSUBISHI GAS CHEM CO INC

C1C 4

PI EP 780456 A1 19970625 (199730)* EN 14[1]

JP 09165356 A 19970624 (199735) JA 9[1] C07C069-92

US 5982069 A 19980303 (199816) EN 10[0] .. C09K019-20

EP 780456 B1 20000101 (200052) EN C09K019-02

DE 69610602 E 20001116 (200065) DE C09K019-02

ADT EP 780456 A1 EP 1996-30930 (19961211) JP 09165356 A JP 1995-129145

US 1996-30930 DE 69610602 E DE 1996-399610602 19961211; EP 780456 B1 EP 1996-30930 19961211; JP 09165356 A JP 1996-30930 19961211; US 5723069 A

FDT DE 69610602 E Based on EP 780456 A

PRAI JP 1995-129145 19951218 IC C07C069-92; C09K019-20

ICL IC 07C069-76; C07C069-86; G02F001-13

ICI C07M007-00

UPAB: 20060113 EP 780456 A1 UPAB: 20060113

C07M007-00

Antiferroelectric compounds of formula (1) are new: R = linear alkyl; A = -O-, -COO-, -COO-; m = 1-3; X and Y = hydrogen or a fluorine atom; C* = asymmetric carbon. Also claimed are compositions containing (1), and a device containing the compositions.

USE - The compounds are useful in higher performance, large size display devices, e.g. television sets.

ADVANTAGE - The compounds provide improved response time, decreased driving voltage, improved tilt angle or broadened temperature range of the anti-ferroelectric phase.

CPI: E10-G02A1; L03-D01D1

Member(0002)

ABEQ JP 09165356 A UPAB 20060113

Antiferroelectric compounds of formula (1) are new: R = linear alkyl; A = -O-, -COO-, -COO-; m = 25; n = 1-3; X and Y = hydrogen or a fluorine atom; C* = asymmetric carbon. Also claimed are compositions containing (1), and

a device containing the compositions.

USE - The compounds are useful in higher performance, large size display devices, e.g., television sets.

ADVANTAGE - The compounds provide improved response time, decreased driving voltage, improved tilt angle or broadened temperature range of the anti-ferroelectric phase.

Member(0003)

ABEQ US 5723069 A UPAB 20060113

Antiferroelectric compounds of formula (1) are new: R = linear alkyl; A = $-O-$, $-CO-$; n = 1-3; X and Y = hydrogen or a fluorine atom;

C^* = asymmetric carbon. Also claimed are compositions containing (1), and a device containing the compositions.

USE - The compounds are useful in higher performance, large size display devices, e.g., television sets.

ADVANTAGE - The compounds provide improved response time, decreased driving voltage, improved tilt angle or broadened temperature range of the anti-ferroelectric phase.

(e.)

Member(0004)

ABEQ EP 780456 B1 UPAB 20060113

Antiferroelectric compounds of formula (1) are new: R = linear alkyl; A = $-O-$, $-CO-$; n = 1-3; X and Y = hydrogen or a fluorine atom; C^* = asymmetric carbon. Also claimed are compositions containing (1), and a device containing the compositions.

USE - The compounds are useful in higher performance, large size display devices, e.g., television sets.

ADVANTAGE - The compounds provide improved response time, decreased driving voltage, improved tilt angle or broadened temperature range of the anti-ferroelectric phase.

AN 1995-375175 [49] WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

CR 1995-539802 DNC C1995-162524 [49]

T1 Blocked isocyanate used in coatings - is obt. by condensing isocyanate with hydroxylated aromatic derivative having carboxyl and/or nitrile functional gps.

DC A25; A82; G02

IN ARDAUD P; BERNARD J (ARDA-1) ARDAUD P; (BERN-1) BERNARD J; RHODIA CHIM; (RHON-C) RHONE POULENC INC

PA (ARDA-1) ARDAUD P; (BERN-1) BERNARD J; RHODIA CHIM; (RHON-C) RHONE POULENC

FR 2719594 EP 680984 A1 19951108 (19954)* FR 11[0]

CA 2148530 AU 9517771 A1 19951109 (199501) EN

BR 9501914 A 19951105 (199512) FR

JP 08053331 A 19950227 (199515) PT

ZA 9503592 A 19950227 (199518) JA 7[0]

AU 994178 A 19950430 (199523) EN

AU 994178 A 19950923 (199511) # EN

EP 680984 B1 20000308 (200017) FR

DE 69515362 E 1995-400934 (200025) DE

ES 2148580 T3 20000716 (200039) ES

AU 736228 B 20010726 (200149) # EN

US 20010039325 A1 20011108 (200171) EN

CA 2148530 C 20020101 (200212) FR

KR 369873 B 20030326 (200353) KO

US 20040014905 A1 20040122 (200407)

#

Member(0005)

ABEQ FR 2719594 AI UPAB 20050702

Blocked isocyanate is claimed which is obt. by condensing an isocyanate with a hydroxylated aromatic deriv. having carbonyl and/or nitrile functional gps. and has a fusion pt. of at least 30°C. The preparation of the above prod. and the production of a powder coating by heating a compsn. at 100-250°C are also claimed.

USE - Used in powder compsns. for coatings (claimed), eg. in painting.

ADVANTAGE - Avoids the use of solvents, reducing deleterious effects on humans, animals and the environment.

MC CPI: A02-C; A08-C06; A08-C09A; A08-D04A; A12-B01; A12-S09; G02-A03

Member(0006)

ABEQ JP 0805331 A UPAB 20050702

Blocked isocyanate is claimed which is obt. by condensing an isocyanate with a hydroxylated aromatic deriv. having carbonyl and/or nitrile functional gps. and has a fusion pt. of at least 30°C. The prepn. of the above prod. and the prodn. of a powder coating by heating a compsn. at 100-250°C are also claimed.

USE - Used in powder compns. for coatings (claimed), eg. in painting.

ADVANTAGE - Reduces the use of solvents, reducing deleterious effects on humans, animals and the environment..

MC CPI: A02-C; A08-C06; A08-C09A; A08-D04A; A12-B01; A12-S09; G02-A03

Member (0015)
 ABQ: JP 95074186 B2 UPAB 20060105
 Prod. of 5-amino-salicylic acid (I) comprises (a) hydrogenation of 5-(
 p-sulphonophenylazo) = salicylic acid (II)
 (produced by linking of the double Na salt of salicylic acid with a
 diazonium salt derived from sulphanilic acid) with H₂ and a catalyst at
 elevated pressure and over 50 deg C; and (b) **ppca** of (I) from
 the mother liquor by acidification.

The catalyst is esp a transition metal, e.g. Pd or Pt; In step
 (b) the mother liquor is acidified to pH 4.5, when (I) is spptd but not the
 sulphanilic acid.

USE/ADVANTAGE - (I) is obtained in extremely pure form esp suitable
 for use in pharmaceutical preps.

L126 ANSWER 85 OF 85 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

AN 1983-34455K [14] WPIX Full-text

TI Liquid crystal co:polyester(s) of enhanced glass transition temp

- are prepared from para-hydroxy benzoic acid, isophthalic acid,
 hydroquinone and 2,bis (4-hydroxyphenyl) propane

A23 DC DEEX O D

IN PA (MONS-C) MONSANTO CO

C/C 10 US 4377681 A 19830322 (198314)* EN 4 C08G063-60

PI JP 58152631 A 19830927 (198338) EN C08G063-60

CA 1189242 A 19850618 (198529) JA C08G063-60

EP 89742 B 19860910 (198631) DE C08G063-60

DE 3365960 G 19861016 (198631) DE C08G063-60

JP 03060331 B 19910913 (199141) JA C08G063-60

ADT 19830315 EP 88742 A US 1982-354568 19820304; US 4377681 A US 1983-475579

19830315; EP 8870015 19830302; JP 03060331 B JP 1983-33894

19830303 US 1982-00035453 19820304

PRAI US 1982-354568 19820304

US 1983-475579 19830315

IPCR B01J031-00 [I,A]; B01J031-00 [I,C]; C08F0008-00

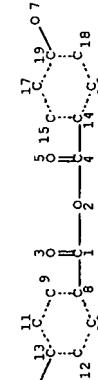
[I,C]; C08F0008-02 [I,A]; C08G063-00 [I,A]; C08G063-00 [I,C];

C08G063-00 [I,A]

AB US 4377681 A UPAB: 20050421

A copolyester (I) is claimed which comprises 10-40 mol.% of (A) -0-pC₆H₄-CO-(
 A) units (B) -CO-m-C₆H₄-CO-(
 B) units, 82-95 mol.% of (C) -O-pC₆H₄-O-(
 C) units (based on (C) and (D)) and (D) -O-pC₆H₄-C(CH₃)₂-pC₆H₄-O-
 the given formulae. (I) forms a thermotropic melt phase at below 340 deg C,
 has a glass transition temperature of at least 160 deg C and has an inherent
 viscosity of at least 0.3 at 30 deg C and 0.5g/100 ml at 60:40
 phenol:tetrachloroethane. The glass transition temperature is enhanced without
 sacrificing liquid crystallinity.

MC CPI: A05-E; A05-E03

⇒ d que 1152 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("P-HYDROXYBENZOIC ACID" / CN
 OR "P-HYDROXYBENZOIC ACID ANHYDRIDE" / CN)
 STR
 L3


NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS: 19

STEREO ATTRIBUTES: NONE

L4 2 SEA FILE=REGISTRY FAM FUL L3
 L5 2643 SEA FILE=REGISTRY ABB=ON PLU=ON 99-96-7/CRN
 L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 61581-05-3/CRN
 L7 2 SEA FILE=REGISTRY ABB=ON PLU=ON (L4 OR L6)
 L8 2646 SEA FILE=REGISTRY ABB=ON PLU=ON (L2 OR L4 OR L5 OR L6)
 L9 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L7
 L10 33 SEA FILE=HCAPLUS ABB=ON PLU=ON P-HYDROXYBENZOIC ACID(3A)ANHYD
 RIDE?
 L11 33 SEA FILE=HCAPLUS ABB=ON PLU=ON P (3A)HYDROXYBENZOIC ACID(3A)A
 NHYDRIDE?
 L12 35 SEA FILE=HCAPLUS ABB=ON PLU=ON (L9 OR L10 OR L11)
 L13 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L12,(L) (PREP OR RACT OR
 PROC) / RL
 L14 3609 SEA FILE=HCAPLUS ABB=ON PLU=ON PRECIPITATES CT
 L15 1655761 SEA FILE=HCAPLUS ABB=ON PLU=ON PRECIPITA? OR ISOLAT?
 L16 35 SEA FILE=HCAPLUS ABB=ON PLU=ON (L9 OR L10 OR L11 OR L12 OR
 L13)
 L17 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND (L14 OR L15)
 L18 49418 SEA FILE=HCAPLUS ABB=ON PLU=ON "GLASS TRANSITION TEMPERATURE"
 "OLD/CT"
 L19 70211 SEA FILE=HCAPLUS ABB=ON PLU=ON "PHASE TRANSITION? (5A) TEMPERATURE?"
 ANT/CT
 L20 13203 SEA FILE=HCAPLUS ABB=ON PLU=ON "SUPERCONDUCTING CRITICAL
 TEMPERATURE""+OLD/CT"
 L21 19214 SEA FILE=HCAPLUS ABB=ON PLU=ON ?TRANSITION? (5A) TEMPERATURE?
 L22 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND (L18 OR L19 OR L20 OR
 L21)
 L23 7 SEA FILE=HCAPLUS ABB=ON PLU=ON (L17 OR L22)
 L26 25005 SEA FILE=HCAPLUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)"+OLD
 NT/CT
 L27 25005 SEA FILE=HCAPLUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)"+OLD
 NT/CT
 L28 133 SEA FILE=HCAPLUS ABB=ON PLU=ON "PRECIPITATION (CHEMICAL)" (L)

***** Below are results from a general search on just
 anhydrides*****

AFFINITY"OLD/CT
L29 297 SEA FILE=HCAPLUS ABB=ON PIJ=ON "PRECIPITATION (CHEMICAL) (L)
AGENTS"OLD/CT
L30 1715 SEA FILE=HCAPLUS ABB=ON PIJ=ON "PRECIPITATION (CHEMICAL) (L)
APP."OLD/CT
L31 77 SEA FILE=HCAPLUS ABB=ON PIJ=ON "PRECIPITATION (CHEMICAL) (L)
CRYOGENIC"OLD/CT
L32 123 SEA FILE=HCAPLUS ABB=ON PIJ=ON "PRECIPITATION ENTHALPY"OLD/C
T
L33 440 SEA FILE=HCAPLUS ABB=ON PIJ=ON "PRECIPITATION (CHEMICAL) (L)
KINETICS"OLD/CT
L34 670864 SEA FILE=HCAPLUS ABB=ON PIJ=ON ?FRECIPIТА?
L37 17575 SEA FILE=HCAPLUS ABB=ON PIJ=ON LB (L) (PREP OR PROC OR
6688 SEA FILE=HCAPLUS ABB=ON PIJ=ON LB (L) (PREP OR PROC OR
RACY)/RL
L39 951 SEA FILE=HCAPLUS ABB=ON PIJ=ON L38 AND (L14 OR L15 OR L18 OR
L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
L32 OR L33 OR L34) PIJ=ON L39 AND (L18 OR L19 OR L20 OR
L21)
L40 410 SEA FILE=HCAPLUS ABB=ON PIJ=ON L40 AND ?CRYSTA?
L41 356 SEA FILE=HCAPLUS ABB=ON PIJ=ON L41 AND (TEMPERATURE?)
L42 350 SEA FILE=HCAPLUS ABB=ON PIJ=ON L41 AND (TEMPERATURE?)
L43 342 SEA FILE=HCAPLUS ABB=ON PIJ=ON L42 AND ?TRANSITION?
L46 6 SEA FILE=HCAPLUS ABB=ON PIJ=ON L43 AND (CRYSTAL?(5A)BENOICT)
L47 86 SEA FILE=HCAPLUS ABB=ON PIJ=ON L37 AND (CRYSTAL?(5A)BENOICP)
L49 13 SEA FILE=HCAPLUS ABB=ON PIJ=ON L47 AND (L14 OR L15 OR L18 OR
L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
L32 OR L33 OR L34) PIJ=ON L23 OR L46 OR L49)
L50 20 SEA FILE=HCAPLUS ABB=ON PIJ=ON L47 AND ?TRANSITION?
L52 13 SEA FILE=HCAPLUS ABB=ON PIJ=ON L52 OR L50)
L53 23 SEA FILE=HCAPLUS ABB=ON PIJ=ON L37 AND (L14 OR L15 OR L18 OR
L19 OR L20 OR L21 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
L32 OR L33 OR L34)
L54 2280 SEA FILE=HCAPLUS ABB=ON PIJ=ON L54 AND (TRANSITION(5A)?BENZOI
C?)
L63 56 SEA FILE=HCAPLUS ABB=ON PIJ=ON L63 AND (TRANSITION(5A)?BENZOI
C?)
L66 56 SEA FILE=HCAPLUS ABB=ON PIJ=ON L66 AND (TEMP? OR TMP)
L67 54 SEA FILE=HCAPLUS ABB=ON PIJ=ON L66 AND (TEMP? OR TMP)
L68 29 SEA FILE=HCAPLUS ABB=ON PIJ=ON L67 AND TRANSITION TEMP?(5A)?B
ENZOIC?
L71 29 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L68 OR L70)
L72 49 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L53 OR L71)
L73 301 SEA FILE=HCAPLUS ABB=ON PIJ=ON ("UENO R"/AU) OR "UENO
RYOZO"/AU)
L104 93 SEA FILE=HCAPLUS ABB=ON PIJ=ON ("KITAYAMA M"/AU OR "KITAYAMA
MASAYA"/AU)
L105 10 SEA FILE=HCAPLUS ABB=ON PIJ=ON ("IZUMIUCHI N"/AU OR "IZUMIUCHI
NOBUKATA"/AU)
L106 6 SEA FILE=HCAPLUS ABB=ON PIJ=ON "KITTAKA M"/AU OR "KITTAKA
MASAHARU"/AU)
L107 3 SEA FILE=HCAPLUS ABB=ON PIJ=ON L103 AND L104 AND L105 AND
L106
L108 48 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L103 AND (L104 OR L105 OR
L106)) OR (L104 AND (L105 OR L106)) OR (L105 AND L106)
L109 12 SEA FILE=HCAPLUS ABB=ON PIJ=ON L108 AND L109 AND (PY<2003 OR
AY<2003
OR PRY<2003)

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L110 5 SEA FILE=HCAPLUS ABB=ON PIJ=ON L108 AND ?ANHYDRIDE?
L111 18 SEA FILE=HCAPLUS ABB=ON PIJ=ON L107 OR L109 OR L110)
L112 48 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L103 AND (L104 OR L105 OR
L106))
L113 11 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L104 AND (L105 OR L106))
L114 3 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L105 AND L106)
L115 11 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L113 AND (L114)) OR
L116 25 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L111 OR L115)
L117 111509 SEA FILE=HCAPLUS ABB=ON PIJ=ON ANHYDRIDES?OLD,NT/CT
L128 242800 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1127 OR L128)
L129 261405 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1129 AND (L14 OR L15 OR L18
OR L19 OR L20 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31
OR L32 OR L33 OR L34)
L130 253342 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1130 AND (L18 OR L19 OR L20
OR L21)
L131 6814 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1130 AND (L18 OR L19 OR L20
OR L21)
L132 80 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1131 AND (L26 OR L27 OR L28
OR L29 OR L30 OR L31 OR L32 OR L33 OR L34)
L133 2 SEA FILE=HCAPLUS ABB=ON L1132 AND ?CRYSTAL?
L134 16 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1132 AND ?CRYSTAL?
L135 16 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L113 OR L134)
L137 79 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1132 AND (TRANSITION? (3A)TMP
OR TEMP?)
L138 15 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1137 AND ?CRYSTAL?
L139 332 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1130 AND CRYSTAL?(3A)ANHYDRIDE
?
L140 74 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1139 AND (L18 OR L19 OR L20
OR L21)
L141 2 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1140 AND (L26 OR L27 OR L28
OR L29 OR L30 OR L31 OR L32 OR L33 OR L34)
L142 45 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1140 AND TRANSITION TEMP?
L143 66 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1140 AND TEMPERATURE?
L144 66 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1140 AND TEMPERATURE?
L145 55 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L113 OR L144) AND ?TRANSITION
?
L146 55 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1142 OR L145)
L147 54 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1146 NOT (L112 OR L116)
L148 37 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1147 (L) (PROC OR
RACT) PL
L149 54 SEA FILE=HCAPLUS ABB=ON PIJ=ON (L147 OR L148)
L150 68 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1149 OR L135 OR L133 OR L141
OR L138)
L151 68 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1150 NOT (L112 OR L116)
L152 55 SEA FILE=HCAPLUS ABB=ON PIJ=ON L1151 AND (PY<2003 OR
AY<2003
OR PRY<2003)

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L152 ANSWER 1 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:10548 HCAPLUS Full-text
DOCUMENT NUMBER: 1381238508
TITLE: Synthesis and properties of poly(aryl ketone)
containing bis(phthalazinone)s and methylene moieties
AUTHOR(S): Zhang, Shaoyin; Jian, Xigao; Shude, Wang,
Huiming; Zhang, Jie
CORPORATE SOURCE: Dept. of Polymer Science & Materials, Dalian Univ. of
Technology, Dalian, 116012, Peop. Rep. China
Gaofenzi Xuebao (2002), (6), 842-845

PUBLISHER: GAXUES; ISSN: 1000-3304
Keue Chubanshe
Journal

Chinese

AB A new biphenol-like monomer, 4,4'-methylenebis[4-(1,4-phenylene)- phthalazin-1(2H)-one] was synthesized from phthalic anhydride and diphenylmethane in two steps. In the first step, Friedel-Crafts reaction was carried out in 1,2-dichloroethane between diphenylmethane and phthalic anhydride. The obtained product was used in the second step with hydrazine monohydrate added into its solution, followed by **recryst.** in acetic acid. The m.p. showed by differential scanning calorimetry of the bis(phthalazinone) monomer was 338.1°C. The overall yield of the biphenol-like monomer was 60%. A new polyphthalazinone was prepared from 4,4'-difluorocodiphenylketone (DFK) and 4,4'-methylenebis[4-(1,4-phenylene)- phthalazin-1(2H)-one] by solution polycondensation in N-methyl-2-pyrrolidone (NMP) with anhydrous K2CO3 as a catalyst. High mol. weight polymer was formed in 8 h at 190°C. The polymer was refined by precipitation from its 15% NMP solution with methanol as the precipitating agent. The powder of the polymer was dried in a vacuum oven under 120°C for 48 h and then under 200°C for 4 h. The intrinsic viscosity of the polymer was 0.58 dL/g in NMP at 25°C. The polymer showed high thermal transition temperature (T_g) at 258°C by DSC. The decomposition temperature for 5% weight loss (T_d) in nitrogen measured by thermogravimetric anal. occurred at 431°C. The solubility of the polymer was investigated at room temperature. The polymer was soluble in NMP, m-cresol and partially soluble in chloroform, and insol. in N,N-dimethylacetamide (DMAc) and DMSO (DMSO). The methylene group and bis(phthalazinone) structure in the backbone of the polymer contribute much to the good solubility and the rigid structure of bis(phthalazinone). Retains its good thermal properties.

CC 36.5 (Chemistry of Synthetic High Polymers)

IT Glass transition temperature

Solubility

Thermal stability

IT Viscosity
(synthesis and properties of poly(aryl ketone) containing bis(phthalazinone) and methylene moieties)

IT 85-46-9, Phthalic anhydride

IT RL: RCT (Reactant); RAC (Reactant or reagent)
(reaction with diphenylmethane, then with hydrazine monohydrate in synthesis of monomer)

IT 101-81-5, Diphenylmethane

IT RL: RCT (Reactant); RAC (Reactant or reagent)
(reaction with phthalic anhydride, then with hydrazine monohydrate in synthesis of monomer)

IT 7803-57-8, Hydrazine monohydrate

IT RL: RCT (Reactant); RAC (Reactant or reagent)
(reaction with products from diphenylmethane and phthalic anhydride in synthesis of monomer)

L152 ANSWER 2 OF 55 HCAPUS COPYRIGHT 2007 ACS on STN

DOCUMENT NUMBER: 20021290354 HCAPUS Full-text

1371:109031

TITLE: x-ray diffraction and molecular simulation study of the crystalline and liquid states of succinic anhydride

AUTHOR(S): Ferretti, Valeria; Gilli, Paola; Gavezotti, Angelo
CORPORATE SOURCE: Dipartimento di Chimica, Universita di Ferrara,
Ferrara, Italy
SOURCE: Chemistry--A European Journal (2002), 8(7),
1710-1718
CODEN: CEUEUD; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The crystal structure of succinic anhydride was studied at five **tempos**. between 100 K and the m.p. by single-crystal x-ray diffraction. The **temperatura**, dependence of mol. libration tensors was determined. Intermol. interactions, in particular through unusually close mol. - mol. contacts, are discussed, with a detailed calcln. of electrostatic energies. A method for the adaptation of existing crystal force fields to mol. dynamics was developed; the adapted force field was used to study mol. motion and rotational diffusion with increasing **temperatura**. Equilibration of the crystalline system becomes impossible at a **temperatura** very close to the exptl. melting **temperatura**, where a sudden transition to the liquid state occurs, and partial kinetic picture of the melting process is obtained. After validation of the force field against exptl. crystal data, the state equation of the liquid was predicted. Enthalpies of sublimation, melting, and vaporization were calculated. The dynamics of a solution of succinic anhydride in a nonpolar solvent was simulated, for a discussion of the aggregation process leading to denixing and to crystal nucleation.

CC 22-13 (Physical Organic Chemistry)

Section cross-references(s): 65, 75

X-ray diffraction crystal/liquid succinic anhydride

crystallizing

IT Force (crystal force field; x-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT Anhydrides (RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Properties))

IT Crystallization (x-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT Mixing (demixing; x-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT Correlation function (rotational; x-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT Diffusion (mol. dynamics; x-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT Heat capacity (vibrational; x-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT Aggregation (crystal nucleation, crystal structure, diffusion, electrostatic potential, evaporation enthalpy, fusion enthalpy, kinetic theory, liquid structure, melting)

Molar volume
Molecular association
Molecular crystals
Molecular dynamics
Molecular libration
Molecular structure
Potential energy
Potential well
Sublimation enthalpy
Thermal expansion
Total energy
Van der Waals Potential

(X-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

IT 108-30-5. Succinic anhydride, properties (Physical process); PROC (Process) (catalog; X-ray diffraction and mol. simulation study of crystalline and liquid states of succinic anhydride)

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LI52 ANSWER 3 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002-232775 HCAPLUS Full-text

DOCUMENT NUMBER: 138-123018

TITLE: Phase behavior and miscibility in blends of poly(sebacic anhydride)/poly(ethylene glycol)

AUTHOR(S): Chan, Cheng-Kuang; Chu, I-Ming

CORPORATE SOURCE: Department of Chemical Engineering, National Tsing Hua University, Taiwan, Hsinchu, 30043, Taiwan

SOURCE: Biomaterials (2002), 23 (11), 2353-2358

CODEN: BIMADU; ISSN: 0142-9612

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this research, poly(sebacic anhydride) was synthesized via melt-condensation. The polymer was then blended with poly(ethylene glycol) in various ratios by solvent casting, to obtain the desired polymer blends. A differential scanning calorimeter was employed to investigate the crystalline behavior of the blends. Blends with under 10% poly(ethylene glycol) were found to consist of two partially miscible polymers in the amorphous phase. This compatibility of the two polymers may induce the glass transition temperature of the poly(sebacic anhydride) component from decreasing the glass transition due to the presence of poly(ethylene glycol) chain segments. Furthermore, phase separation occurred and the crystallinity of poly(sebacic anhydride) diminished when at least 20% poly(ethylene glycol) was present in the blends. These results were verified by the variation in the absorptions of carbonyl groups in IR spectra; these spectra exhibit the changes in crystallinity of poly(sebacic anhydride) in the blends.

CC Section cross-reference(s): 63

ST phase miscibility blend polysabacic anhydride PEG

IT crystallinity

Fusion enthalpy

Glass transition

Miscibility

Phase separation (phase behavior and miscibility in blends of poly(sebacic anhydride)/poly(ethylene glycol))

IT Polyoxalkylenes, properties

RL: PRP (Properties) (phase behavior and miscibility in blends of poly(sebacic anhydride)/poly(ethylene glycol))

IT Polyanhydrides

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (phase behavior and miscibility in blends of poly(sebacic anhydride)/poly(ethylene glycol))

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Zheng, H	2005 1205	8 1907 Chem Mater	HCAPLUS
L152 ANSWER 5 OF 55	HCAPLUS	COPYRIGHT 2007 ACS on STN	
DOCUMENT NUMBER:	2001:733361	HCAPLUS Full-text	
TITLE:	In-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene		
AUTHOR(S):	Xie, Xiaolin; Li, R. K. Y.; Tjhung, S. C.		
CORPORATE SOURCE:	Dep. Chem., Huazhong Univ. Science and Technol., Wuhan, 430074, Peop. Rep. China;		
SOURCE:	Calliao Yanjiu Xuebao (2001), 45(3), 348-352		
PUBLISHER:	Calliao Yanjiu Xuebao Bianjibu		
DOCUMENT TYPE:	Chinese Journal		
LANGUAGE:	AB	Vectra A 950, PA 6, and maleic anhydride-styrene copolymer (I) were blended and injection molded. The polyester was esterified with I and the polyamide was amided with I, thus I improved the compatibility of the 2 resins. The interaction between the 2 resins was enhanced, the viscosity of the melt was increased, the glass transition temp. was shifted toward each other, the dispersibility of the polyester in PA 6 was improved, and the interfacial adhesion was increased.	
CC	36-6 (Physical Properties of Synthetic High Polymers)	Section cross-references(s): 75	
ST	liq cryst polyester-polyamide blend compatibilizer; maleic anhydride styrene copolymer compatibilizer	IR spectroscopy	
IT	Fourier-transform; in-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof	Esterification	
IT	Amidation	Crosslinking	
IT		Glass transition temperature	
	Liquid crystals, Polymeric Polymer blend compatibilizers	Liquid crystalline polyester-polyamide-polymer blends	
	Scanning electron microscopy	In-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof	
IT		Polymer blends, properties	
IT		Polymer morphology	
IT		(injection; in-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof)	
IT		Molding of plastics and rubbers	
	(injection; in-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof)	Polymer in formulation; PRP (Properties); USES (Uses)	
IT		(in-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof)	
		POF (Polymer in formulation); PRP (Properties); USES (Uses)	
		(in-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof)	
		Polymer morphology	
		(spherulitic; in-situ composites based on liquid crystalline polyester-polyamide-maleic anhydride-styrene copolymer blends and compatibility thereof)	

- IT Complex modulus
(tan δ, in-situ composites based on liquid **crystalline** polyether-maleic **anhydride**-styrene copolymer blends and compatibility thereof)
- IT 81843-52-9, Vectra A 950
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (Vectra A 950; In-situ composites based on liquid **crystalline** polyether-polyamide-maleic **anhydride**-styrene copolymer blends and compatibility thereof)
- IT 9011-13-0, Maleic **anhydride**-styrene copolymer
RU: MOA (Modifier or additive use); USES (Uses) (in-situ composites based on liquid **crystalline** polyether-polyamide-maleic **anhydride**-styrene copolymer blends and compatibility thereof)
- IT 25038-54-4, PA 6, properties
RU: POF (Polymer in formulation); PRP (Properties); USES (Uses) (in-situ composites based on liquid **crystalline** polyether-polyamide-maleic **anhydride**-styrene copolymer blends and compatibility thereof)
- IT 403604-65-9P, ε-Caprolactam- ρ -hydroxybenzoic acid-6-hydroxy-2-naphthoic acid-maleic **anhydride**-styrene copolymer
RU: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or in-situ composites based on liquid **crystalline** polyether-polyamide-maleic **anhydride**-styrene copolymer blends and compatibility thereof)
- L152 ANSWER 6 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1351344853
DOCUMENT NUMBER: 2001:389418 HCAPLUS Full-text
TITLE: Synthesis and characterization of 3,5-diaminobenzoic-4,4'-diphenyl ester and polyimide with liquid-crystalline side-chain
AUTHOR(S): Fan, Haojun; Gu, Yi; Xie, Meili
CORPORATE SOURCE: State Key Lab. Polymer Engineer, Sichuan Univ., Chengdu 610065, Peop. Rep. China
SOURCE: GaoFenzi Xuebao (2001), (4), 494-498
CODEN: GAXUB9; ISSN: 1000-3304
PUBLISHER: Xuebu Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB A novel liquid crystalline side-chain in-situ self-reinforced polyimide (PI) film material was prepared by polymerization of 4'-biphenyl 3,5-diaminobenzoate, 4,4'-oxydiphenyl **anhydride** and 4,4'-oxydianiline and characterized by DSC, TGA, WAXD and polarized optical microscopy. Properties of polyimides with mesogenic units, such as mol. weight, solubility, thermal stability and tensile strength depended strongly on the content of mesogenic units. The mol. weight decreased and the solubility increased with the increase of mesogenic units level. Due to the in situ self-reinforcement of liquid crystal side-chains, the mech. properties of PI's were greatly enhanced, for example, the maximum improvement of tensile strength and modulus reach 270% and 300%, resp. TGA study indicates that the 5% weight loss **temperature** of PI's was >20°C. Under polarized optical microscopy, these PI's exhibit liquid crystal behaviors at a high **temperature** range and exhibit nematic phase. The side-chain liquid crystalline PI's also exhibit good solubility
- CC 33-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 75
biphenyl diaminobenzoate liq crystal; oxydianiline polyether polyimide liq crystal; oxydiphenyl **anhydride**
- ST biphenyl diaminobenzoate polyether liq crystal; oxydianiline polyether polyimide liq crystal

- IT Polyimides, preparation
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); preparation and characterization of biphenyl benzoate-(polyether-; preparation and characterization of biphenyl benzoate-containing)
- IT Polymers, preparation
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); preparation and characterization of biphenyl benzoate-(polyimide-; preparation and characterization of biphenyl benzoate-containing)
- IT Glass transition temperature
RU: Liquid crystals, polymeric
Tensile strength
(preparation and characterization of biphenyl benzoate-containing)
Polyether-polyimides)
- IT 99-34-3, 3,5-Dinitrobenzoic acid
(chlorination of)
- IT 371776-12-8P, 4'-Biphenyl 3,5-diaminobenzoate-4,4'-oxydianiline-4,4'-oxydiphenyl **anhydride** copolymer
RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
- IT 13651-59-2P
RU: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization with oxydiphtahlic **anhydride** and oxyaniline)
- IT 178274-12-9P
RU: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)
- IT 92-69-3, 4-Hydroxybiphenyl
RU: RCT (Reactant); RACT (Reactant or reagent)
(reaction with dinitrobenzoyl chloride)
- L152 ANSWER 7 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:389418 HCAPLUS Full-text
DOCUMENT NUMBER: 135153160
TITLE: Liquid crystalline copolymers with cholesteryl as mesogenic group
AUTHOR(S): Filip, D.; Simionescu, C. I.; Macocincschi, D.
CORPORATE SOURCE: "Petru Poni" Institute of Macromolecular Chemistry,
Iasi, 6600, Rom.
SOURCE: Materials Research Bulletin (2001), 36(7-8), 1455-1461
CODEN: MRBAC; ISSN: 0025-5540
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this paper, the synthesis and characterization of copolymers obtained from free-radical copolymerization of maleic **anhydride** with mesogenic 1-alkene and with mesogenic acrylates are presented. The mesomorphic properties were investigated by differential scanning calorimetry (DSC) and polarizing optical microscopy.
- CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 75
ST maleic **anhydride** cholesteryl liq **cryst** copolymer
IT Glass transition temperature
Solubility

(Liquid crystalline copolymers with cholestryl as mesogenic group)
 IT 352636-67-0P 352636-69-2P 352636-71-6P
 RU: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation); Paints

(Liquid crystalline copolymers with cholestryl as mesogenic group)

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A new paint removal concept is introduced making use of a polymer primer layer with a sharp softening **temp.** For this, a new class of side-chain liquid crystalline polymers with polar moieties in the backbone has been developed and studied in thin films. These polymers form lamellar-ordered mesophases and contain adhesion-enhancing moieties, which can provide protection against corrosion. Furthermore, the polymers possess phase **transitions** which are accompanied by drastic changes in the mech. properties. When the viscosity of a primer film abruptly drops it will start to flow which makes it possible to remove the coating layer as an intact film simply by pulling the coating off the primer layer. Since the various synthesized polymers all possess different **transition temp.**, we can choose the most convenient polymer on the basis of the desired **temperature** dependence.

CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 35, 75

ST liq cryst polymer primer; paint removal; maleic anhydride; copolymer liq cryst visco; polyketone liq cryst primer paint removal; polymethacrylate liq cryst primer paint removal

IT Molecular structure-property relationship
 (Liquid crystalline phase **transition**; paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening **temp.**)
 IT Phase **transition**
 (Liquid crystalline; paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening **temp.**)

IT Liquid crystals, polymeric
 Melt viscosity
 Paints

Primers (paints)

Primers (paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening temp.)							
Referenced Author (RAU)	Year VOL PG Referenced Work Referenced File	Referenced Author (RAU)	Year VOL PG Referenced Work Referenced File	Referenced Author (RAU)	Year VOL PG Referenced Work Referenced File	Referenced Author (RAU)	Year VOL PG Referenced Work Referenced File
Anon	1984 4 1715 Plenum	Itaya, M	1992 30 803 J Polym Sci, Polym Chem HCAPLUS	Kriegerbaum, W	1985 41 1105 J Appl Polym Sci App HCAPLUS	Leiva, A	1998 137 145 J Macromol Sci Phys
Noel, C	1991 116 155 Prog Polym Sci HCAPLUS	Perec, V	1987 25 1405 J Polym Sci Polym Chem HCAPLUS	Simionescu, C	1985 1174 1631 Chimie Macromolecula HCAPLUS	Stevens, H	1984 17 651 Macromolecules HCAPLUS
L152 ANSWER B OF 55	HCAPLUS COPYRIGHT 2007 ACS on STN 2001:329592 HCAPLUS Full-text	135:108632	A Paint removal concept with side-chain liquid crystalline polymers as primer material	van der Wielen, M. W. J.; Cohen Stuart, M. A.; Fleer, G. J.; Nieuwhof, R. P.; Marcelis, A. T. M.; Sudholter, E. J. P.	Laboratory of Physical Chemistry and Colloid Science, Wageningen University, Wageningen, 6703 HB, Nath.	41(1-3), 157-165	CODEN: POCAT; ISSN: 0300-9440
ACCESSION NUMBER:							
DOCUMENT NUMBER:							
TITLE:							
AUTHOR(S):							
CORPORATE SOURCE:							
SOURCE:							
PUBLISHER:							
DOCUMENT TYPE:							
LANGUAGE:							
AB A new paint removal concept is introduced making use of a polymer primer layer with a sharp softening temp. For this, a new class of side-chain liquid crystalline polymers with polar moieties in the backbone has been developed and studied in thin films. These polymers form lamellar-ordered mesophases and contain adhesion-enhancing moieties, which can provide protection against corrosion. Furthermore, the polymers possess phase transitions which are accompanied by drastic changes in the mech. properties. When the viscosity of a primer film abruptly drops it will start to flow which makes it possible to remove the coating layer as an intact film simply by pulling the coating off the primer layer. Since the various synthesized polymers all possess different transition temp. , we can choose the most convenient polymer on the basis of the desired temperature dependence.							
CC 42-10 (Coatings, Inks, and Related Products)							
ST liq cryst polymer primer; paint removal; maleic anhydride; copolymer liq cryst visco; polyketone liq cryst primer paint removal; polymethacrylate liq cryst primer paint removal							
IT Molecular structure-property relationship (Liquid crystalline phase transition ; paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening temp.)							
IT Phase transition (Liquid crystalline; paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening temp.)							

Primers (paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening **temp.**)

IT Polyketones

RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

Paints

Primers (paints)

IT Polymer chains

RU: paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening **temp.**)

IT Polymer morphology

RU: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

Paints

Primers (paint removal concept with side-chain liquid crystalline polymers as primers with sharp softening **temp.**)

IT Adhesion

RU: I Prog Polym Sci | HCAPLUS

Izv Prikl Khim | HCAPLUS

I Adhesion Sci Techn | HCAPLUS

Whorlow, R	1992	Rheological Techniques
L152 ANSWER 9 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 2001:298519 HCAPIUS Full-text DOCUMENT NUMBER: 135:77360		
TITLE: Dielectric and IR Spectroscopy of the Macromolecular Reaction of Anhydridization in a Functionalized Side-Chain Liquid Crystalline Copolymer Containing Acrylic Acid Groups		
AUTHOR(S): Zhukov, Sergei; Stuehn, Bernd; Borisova, Tamara; Baranov, Eugene; Barmatova, Marina; Shibaev, Valery; Kremer, Friedrich; Pissis, Polycarpos		
CORPORATE SOURCE: Institut fuer Physik, Technische Universitat Ilmenau, Ilmenau, 9863, Germany		
SOURCE: Macromolecules (2001), 34(11), 3615-3625 CODEN: NMOMBX; ISSN: 0024-9297		
PUBLISHER: American Chemical Society		
DOCUMENT TYPE: Journal		
LANGUAGE: English		
AB The anhydride formation reaction was studied in functionalized side-chain random liquid crystalline (LC) copolymers of 4-(4-cyanobiphenyl-4'-yloxybutyl acrylate and acrylic acid (38 mol %). Heat treatment of the LC copolymer at 130° for 5-200 h resulted in formation of intra- and intermolecular anhydrides and network structures causing an increase of the glass transition and clearing temps. The influence of annealing on the reorientational dynamics of the copolymers was studied by broadband dielectric relaxation spectroscopy. The local dynamics of the side group involving spacer motion (γ relaxation) and mesogen rotation about the long axis (β relaxation), do not depend on the annealing time. At the same time, a considerable (more, than 2 orders of magnitude) decrease in the relaxation rates of the cooperative δ and α processes was observed due to a gradual increase in the main-chain rigidity during annealing. The mol. mechanism of all relaxation processes is described.		
CC 36-2 (Physical Properties of Synthetic High Polymers)		
ST Section cross-references(s): 35, 75 cyanobiphenyl acrylic acid LCP anhydridization heat treatment; network structure liquid crystal polymer acrylate anhydride ; intramol anhydride formation LCP cyanobiphenylbutyl acrylate copolymer		
IT Annealing		
IT Dielectric loss Liquid crystals, polymeric Polymer networks (dielec. loss and chain dynamics and anhydride formation upon annealing of cyanobiphenylbutyl acrylate side-chain liquid crystalline copolymer)		
IT Polymer chains (relaxation; dielec. loss and chain dynamics and anhydride formation upon annealing of cyanobiphenylbutyl acrylate side-chain liquid crystalline copolymer)		
IT 196338-99-5, Acrylic acid-4-(4-cyanobiphenyl-4'-yloxy)butyl acrylate copolymer RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process) (dielec. loss and chain dynamics and anhydride formation upon annealing of cyanobiphenylbutyl acrylate side-chain liquid crystalline copolymer)		
RETBELB Referenced Author Year Vol PG Referenced Work Referenced		

REFID: L152 ANSWER 10 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

DOCUMENT NUMBER:

TITLE:

L152 ANSWER 10 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN

Full-text

Highly ordered side-chain liquid-crystalline

(RAU)	(RPA)	(RVL)	(RPE)	(RWK)	File
Andjelic, S	11998	31	8463	Macromolecules	HCAPIUS
Attard, G	11986	11	1253	Liq Cryst	HCAPIUS
Attard, G	11986	127	185	Polymer	HCAPIUS
Attard, G	11990	31	928	Polymer	HCAPIUS
Barmatova, E	11999	37	3215	J Polym Sci, Part A: HCAPIUS	HCAPIUS
Barmatova, E	11997	23	447	Liq Cryst	HCAPIUS
Barmatova, E	11999	26	581	Liq Cryst	HCAPIUS
Barmatova, E	12000	201	12597	Macromol Chem Phys	HCAPIUS
Barmatova, E	11999	20	521	Macromol Rapid Comm	HCAPIUS
Barmatova, E	11998	40	17659	Polym Sci	HCAPIUS
Barmatova, E	11998	40	1295	Polym Sci	HCAPIUS
Bazurin, C	11998	3	59	Mechanical and Termo	HCAPIUS
Borissova, T	11998	199	2147	Macromol Chem Phys	HCAPIUS
Bormuth, F	11988	3	881	Liq Cryst	HCAPIUS
Bormuth, F	11989	15	1549	Liq Cryst	HCAPIUS
Bormuth, F	11987	153	207	Mol Cryst Liq Cryst	HCAPIUS
Filippov, A	12000	42	329	Polym Sci	HCAPIUS
Floess, R	11994	63	1385	J Am Chem Soc	HCAPIUS
Gedde, U	11994	35	2036	Polymer	HCAPIUS
Glatz-Reichenbach, J	11994	27	1338	Macromolecules	HCAPIUS
Haase, W	11985	89	1229	Ber Bunsen-Ges Phys	HCAPIUS
Haase, W	11991	95	1030	Ber Bunsen-Ges Phys	HCAPIUS
Hallemark, C	11998	31	4531	Macromolecules	HCAPIUS
Kato, T	11997	11B	969	Hydrogen-Bonded Syst	HCAPIUS
Kato, T	11995	98	311	Macromol Symp	HCAPIUS
Klinbiel, R	11974	7651	17651	J Am Chem Soc	HCAPIUS
Kremer, F	11989	22	4040	Macromol Chem, Rapid	HCAPIUS
Kremer, F	11982	13	509	Macromol Chem, Rapid	HCAPIUS
Lezov, A	11996	20	201	Liq Cryst, in press	HCAPIUS
Mano, J	11994	35	3561	Liq Cryst	HCAPIUS
Mano, J	11994	35	5170	Polymer	HCAPIUS
Paleos, C	11995	34	1596	Angew Chem, Int Ed E	HCAPIUS
Plate, N	11995	127	38	Colloid Polym Sci	HCAPIUS
Roland, C	11995	123	6942	Macromolecules	HCAPIUS
Muller, M	11993	35	30	Polym Sci	HCAPIUS
Nikonorova, N	11997	39	404	Polym Sci	HCAPIUS
Nikonorova, N	11995	18	73	Liq Cryst	HCAPIUS
Novotna, E	11995	18	173	Angew Chem, Int Ed E	HCAPIUS
Shibaev, V	11998	276	662	Colloid Polym Sci	HCAPIUS
Starkeweather, H	11988	21	1798	Macromolecules	HCAPIUS
Vogel, K	1921	22	645	Phys Z	HCAPIUS
Schonfeld, A	11993	194	1149	Makromol Chem	HCAPIUS
Schonhals, A	11995	28	6234	Makromol Chem	HCAPIUS
Schonhals, A	11998	31	9019	Macromolecules	HCAPIUS
Shibaev, V	11998	276	662	Colloid Polym Sci	HCAPIUS
Starkeweather, H	11988	21	1798	Macromolecules	HCAPIUS
Wetton, R	11965	61	2132	Trans Faraday Soc	HCAPIUS
Willbourn, A	11958	54	717	Trans Faraday Soc	HCAPIUS
Williams, G	11994	35	1915	Polymer	HCAPIUS
Zentel, R	11985	18	960	Macromolecules	HCAPIUS
Zentel, R	11986	187	1915	Makromol Chem	HCAPIUS
Zentel, R	11989	190	2869	Makromol Chem	HCAPIUS
Zhong, Z	11994	17	1199	Liq Cryst	HCAPIUS

AUTHOR(S):	Nieuwhof, Rene P.; Marcelis, Antonius T. M.; Schuhmeyer, Ernst J. R.; Picken, Stephen J.; Van Puijenbroek, Rob R.	CORPORATE SOURCE:	Laboratory of Organic Chemistry, Wageningen University, Holland Wageningen, 6703, Neth.	SOURCE:	Macromolecular Chemistry and Physics (2000), 201(17), 2394-2400 CODEN: MCPCES; ISSN: 1022-1352	PUBLISHER:	Wiley-VCH Verlag GmbH Journal	DOCUMENT TYPE:	English
LANGUAGE:	AB Side-chain liquid-crystalline polymers (SCLCPs) were synthesized from the alternating copolymer of maleic anhydride with swallow-tailed 1-alkenes having two mesogens. In contrast to similar polymers from 1-alkenes with one mesogen per repeating unit, these novel polymers exhibited lower isotropization temps. and higher glass transition temps. The degree of order in the mesophase strongly increased: these SCLCPs exhibited a highly ordered smectic H phase. The polymers with a hexyl spacer between the malonate junction and the mesogen exhibited a uniaxial limited-correlation-length smectic E mesophase (SEu) which has, according to our knowledge, not been observed before. The highest transition temps. and entropy changes were observed for polymers with completely interdigitated side chains.	Section cross-reference(s):	75 35-4 (Chemistry of Synthetic High Polymers)	CC	ST maleic anhydride alkene mesogen liq cryst polymer IT liquid crystals Phase transition	IT (highly ordered side-chain liquid-crystalline polymers from maleic anhydride and swallow-tailed 1-alkenes having two mesogens) 328241-93-6P 328241-94-7P 328241-95-8P RU: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)	IT 2826-46-2, 106869-53-8 RU: RCT (Reactant); RCT (Reactant or reagent)	IT (highly ordered side-chain liquid-crystalline polymers from maleic anhydride and swallow-tailed 1-alkenes having two mesogens) 325461-70-9P 328241-91-4P 328241-92-5P RU: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)	IT (highly ordered side-chain liquid-crystalline polymers from maleic anhydride and swallow-tailed 1-alkenes having two mesogens)
RETABLE	Referenced Author (RAU)	Year (RY) VOL (RVL) PG (RPG) File (RWK)	Referenced Work Reference File	IT	IT	IT	IT	IT	
Craig, A	1995 128 3617 Macromolecules HCAPLUS	Macromolecules HCAPLUS	IT Crystallization	IT	IT	IT	IT	IT	
Demus, D	1994 168 1993 Liquid Crystals HCAPLUS	Liquid Crystals HCAPLUS	Miscibility (of poly(ethylene oxide)/maleic anhydride-styrene copolymer ionomer blends)	IT	IT	IT	IT	IT	
Diele, S	1997 168 1993 Makromol Chem HCAPLUS	Makromol Chem Rapid HCAPLUS	Mechanical loss	IT	IT	IT	IT	IT	
Diele, S	1996 7 126 Makromol Chem Phys HCAPLUS	Makromol Chem Phys HCAPLUS	Polymer blends	IT	IT	IT	IT	IT	
Jahnichen, K	1995 196 3323 Macromol Chem Phys HCAPLUS	Macromol Chem Phys HCAPLUS	RL: PRP (Properties)	IT	IT	IT	IT	IT	
Komber, H	1995 196 669 Macromol Chem Phys HCAPLUS	Macromol Chem Phys HCAPLUS	(poly(ethylene oxide)/maleic anhydride-styrene copolymer ionomer; miscibility, crystallization and melting behavior of)	IT	IT	IT	IT	IT	
Komiya, Z	1992 25 13609 Macromolecules HCAPLUS	Macromolecules HCAPLUS	ionomer; miscibility, crystallization and melting behavior of)	IT	IT	IT	IT	IT	
Laus, M	1993 26 3999 Macromol Symp HCAPLUS	Macromol Symp HCAPLUS	25322-68-3, Poly(ethylene oxide)	IT	IT	IT	IT	IT	
Nieuwhof, R	1998 127 115 Macromolecules HCAPLUS	Macromolecules HCAPLUS	RL: PRP (Properties)	IT	IT	IT	IT	IT	
Nieuwhof, R	1999 32 6499 Macromolecules HCAPLUS	Macromolecules HCAPLUS	(blends with maleic anhydride-styrene copolymer ionomers;	IT	IT	IT	IT	IT	

Percec, V	1999 1999 Inside Chain Liquid Cr	HCAPLUS		
Pugh, C	1997 22 Prog Polym Sci	HCAPLUS		
Rodriguez-Parada, J	1996 24 J Polym Sci Part A	HCAPLUS		
Simmonds, D	1992 1363 Liquid Crystal Polym	HCAPLUS		
Sugiyama, K	1991 64 Bull Chem Soc Jpn	HCAPLUS		
Tack, J	1996 37 Polymer	HCAPLUS		
Trivedi, B	1992 1 Maleic Anhydride	HCAPLUS		
Ungerank, M	1995 196 Macromol Chem Phys	HCAPLUS		
van der Wielen, M	1997 13 Langmuir	HCAPLUS		
van der Wielen, M	1998 14 Langmuir	HCAPLUS		
Vogel, A	1999 1999 Textbook of Practical	HCAPLUS		
Winkler, B	1996 197 Macromol Chem Phys	HCAPLUS		
LI52 ANSWER 11 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN				
ACCESSION NUMBER: 2000-337252 HCAPLUS Full-text	DOCUMENT NUMBER: 133:74763	TITLE: Ionomeric blends of poly(ethylene oxide) with poly(styrene-co-maleic anhydride) ionomer: miscibility, crystallization, and melting behavior	Al-Salah, Hasan A.	Polymer Science and Technology Research Lab, Chemistry Department, Mutah University, Ma'tah, Jordan
AUTHOR(S):	CORPORATE SOURCE: Journal of Applied Polymer Science (2000), 77(1), 1-7	SOURCE: CODEN: JAPNAB; ISSN: 0021-8995	John Wiley & Sons, Inc.	Journal
PUBLISHER: DOCUMENT TYPE: LANGUAGE:	DOCUMENT NUMBER: AB	The miscibility and crystallization behavior of poly(ethylene oxide) (PEO) and poly(styrene-co-maleic anhydride) ionomer (SMAI) blends were studied by dynamic mech. anal. and DSC. This study has demonstrated that the presence of ion-dipole interactions enhances the miscibility of otherwise immiscible PEO and high mol. weight SMA. The effect of ion-dipole interactions on enhancing miscibility is confirmed by the presence of a single glass transition temperature and a depression of the equilibrium melting temperature of the PEO component. The equilibrium melting temps. of PEO in the blends are obtained using Hoffman-Weeks plots. The interaction energy d. is calculated from these data using the Nishi-Wang equation. The results suggest that PEO and SMAI blends are thermodynamically miscible in the melt.	IT	
RU: RCT (Reactant); RCT (Reactant or reagent)	CC	35-6 (Plastics Manufacture and Processing)	IT	
RU: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)	ST	Section cross-reference(s): 36 polyoxyethylene melt blend maleate polymer ionomer; styrene maleic anhydride polymer ionomer miscibility	IT	
RU: PRP (Properties)	IT	Polyoxyalkylenes, Properties	IT	
(blends with maleic anhydride-styrene copolymer ionomers; miscibility, crystallization and melting behavior of)				

miscibility, crystallization and melting behavior of)
IT 9011-13-0D, Maleic **anhydride**-styrene copolymer, hydrolyzed
RL: PRP (Properties)
(blends with poly(ethylene oxide); miscibility, crystallization and melting
behavior of ionomers)

REFIDLE	Referenced Author (RAU)	Year (RPR)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Al-Salah, H	1992	145	11661	IJ Appl Polym Sci	HCAPLUS	
Al-Salah, H				[Polymer Bull accepted]	HCAPLUS	
Al-Salah, H	1992	128	323	Polymer Int	HCAPLUS	
Al-Salah, H	1997	42	429	Polymer Int	HCAPLUS	
Al-Salah, H				[in Preparation]	HCAPLUS	
Alfonso, G	1986	19	1143	Macromolecules	HCAPLUS	
Anon	1979			[Adv Chem Ser 176: Macromolecular Compounds]	HCAPLUS	
Braunrock, G	1994	29	413	IJ Polym Sci Polym Ph	HCAPLUS	
Choi, K	1997	130	1509	Macromolecules	HCAPLUS	
Dafourov, G	1983	130	267	Polymer Commun	HCAPLUS	
de Juan, R	1994	27	6980	Macromolecules	HCAPLUS	
Djedoun, S	1977	110	1015	Macromolecules	HCAPLUS	
Erdi, N	1964	119	1708	IJ Collloid Sci	HCAPLUS	
Feng, H	1995	131	243	Bur Polym J	HCAPLUS	
Fox, T	1956	12	123	Bull Am Phys Soc	HCAPLUS	
Hart, M	1984	117	11335	Macromolecules	HCAPLUS	
Hoffman, J	1962	166	113	IJ Res Natl Bur Stand	HCAPLUS	
Horizon, J	1966	124	169	IJ Polym Sci Polym Le	HCAPLUS	
Imken, R	1976	116	1593	Polym Eng Sci	HCAPLUS	
Kim, J	1993	126	5256	Macromolecules	HCAPLUS	
Koning, C	1993	134	4410	Polymer	HCAPLUS	
Lezcano, E	1996	137	3603	IJ Polym Sci Polym Ph	HCAPLUS	
Li, X	1984	122	1331	IJ Polym Sci Polym Ch	HCAPLUS	
Liberman, S	1984	122	2809	IJ Polym Sci Polym Le	HCAPLUS	
Lu, X	1992	125	6185	Macromolecules	HCAPLUS	
Martuscelli, E	1984	25	1097	Polymer	HCAPLUS	
Molnar, A	1992	25	5774	Macromolecules	HCAPLUS	
Murrayana, T	1978			[Dynamical Mechanical]	HCAPLUS	
Nedkov, E				[IJ Macromol Sci Phys]	HCAPLUS	
Ng, C	1994	127	6942	Macromolecules	HCAPLUS	
Ng, C	1996	129	2412	Polymer Blends	HCAPLUS	
Nishi, T	1975	18	909	Macromolecules	HCAPLUS	
Nishio, V	1990	128	355	IJ Polym Sci Polym Ph	HCAPLUS	
Ohno, N	1979	111	947	Polymer J	HCAPLUS	
Painter, P	1997	30	932	Macromolecules	HCAPLUS	
Paul, D.	1978			[Polymer Blends]	HCAPLUS	
Plante, M	1997	28	1567	Macromolecules	HCAPLUS	
Plante, M	1997	30	2613	Macromolecules	HCAPLUS	
Ruckowski, M	1984	17	821	Macromolecules	HCAPLUS	
Scott, R	1949	17	1279	Chem Phys	HCAPLUS	
Silvestre, C	1987	28	1190	IJ Polymer	HCAPLUS	
Smith, P.	1983	21	223	IJ Polym Sci Polym Le	HCAPLUS	
Sulzberg, T	1970	8	12747	IJ Polym Sci Polym Ch	HCAPLUS	
Utracki, L	1990			[Polymer Alloys and Bi]	HCAPLUS	
Xiang, M.	1997	30	2313	Macromolecules	HCAPLUS	
Xing, P.	1987	30	12726	Macromolecules	HCAPLUS	
Zhou, Z.	1983	21	5951	IJ Polym Sci Polym Ph	HCAPLUS	

DOCUMENT NUMBER:
TITLE:
132-93876
Thermotropic behavior of side-chain liquid-crystalline copolymers from maleic anhydride and mesogen-containing methacrylates

AUTHOR(S): Nieuwhof, René P.; Marcellis, Antonius T. M.;
Sudholter, Ernst J. R.
Lab. Organic Chemistry, Dep. Biomolecular Sciences,
Research Center, Wageningen Univ., Wageningen, 6703 HB, Neth.

CORPORATE SOURCE: Macromolecular Chemistry and Physics (1999),
200(11), 2494-2500
CODEN: MCHEPS; ISSN: 1022-1352
Wiley-VCH Verlag GmbH

PUBLISHER: Journal

LANGUAGE: English
AB Side-chain liquid-crystalline copolymers (SCLCPs) were synthesized by copolymers of maleic **anhydride** (MA) and mesogenic methacrylates. For smectic E1 mesophases are observed. Furthermore, it was found that the isotropization temperature increases and the width of the monotropic smectic A1 mesophase decreases with increasing MA content. For methoxybiphenyl-containing copolymers with ~25 mol% MA, the glass transition temperature decreases with increasing spacer length, whereas the isotropization temperature shows little dependence on spacer length, although a small odd-even effect is observed. For octyl or shorter spacers, these polymers exhibit a smectic E mesophase, whereas for longer spacers smectic B mesophases were observed. These mesophases are succeeded by a smectic A1 mesophase for SCLCPs with heptyl or longer spacers. SCLCPs with cyanoazobenzene mesogens exhibit only a smectic A1 mesophase, whereas SCLCPs with cyanobiphenyl mesogens are not liquid crystalline

CC 36-2 (Physical Properties (s): 75
Section cross-reference (s): 75
ST maleic **anhydride** mesogenic methacrylate polymer thermotropic; crystal structure maleic **anhydride** mesogenic

methacrylates)
IT Crystal structure
Heat capacity
(d spacings; thermotropic behavior of side-chain liquid-crystalline copolymers from maleic **anhydride** and mesogen-containing methacrylates)

IT Liquid crystals, polymeric
(smectic; thermotropic behavior of side-chain liquid-crystalline copolymers from maleic **anhydride** and mesogen-containing methacrylates)

IT Entropy
(structural phase transition; thermotropic behavior of side-chain liquid-crystalline copolymers from maleic **anhydride** and mesogen-containing methacrylates)

IT 68317-10-2P 255056-27-0P 255056-28-1P 255056-29-2P 255056-30-5P
255056-31-0P 255056-32-7P 255056-33-8P 255056-34-9P 255056-35-0P
PL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(thermotropic behavior of side-chain liquid-crystalline copolymers from maleic **anhydride** and mesogen-containing methacrylates)

RETABLE Referenced Author
(RAU) | Year | VOL | PG | Referenced Work | Referenced
(RAU) | (RPR) | (RVL) | (RPG) | (RWK) | File

Alimoglu, A 1994 125 11342 Polymer (HCAPLUS)

L152 ANSWER 12 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:759910 HCAPLUS Full-text

SN 10/553451 Page 107 of 163

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SN 10/553451 Page 108 of 163

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Chovino, C	1998	139	16385	Polymer	IHCAPLUS
Craig, A	1994	4	1705	IJ Mater Chem	IHCAPLUS
Craig, A	1995	28	13617	Macromolecules	IHCAPLUS
Davidson, P	1992	11	469	Liq Cryst	IHCAPLUS
Davidson, P	1996	21	893	Prog Polym Sci	IHCAPLUS
Davis, F	1991	24	5695	Macromolecules	IHCAPLUS
Gray, G	1979	53	1	The Molecular Physic	IHCAPLUS
Inrie, C	1993	26	53	Macromolecules	IHCAPLUS
Koltzenburg, S	1998	36	12669	IJ Polym Sci Part A: HCAPLUS	IHCAPLUS
Komber, H	1995	196	669	Macromol Chem Phys	IHCAPLUS
Leiva, A	1998	B37	45	IJ Macromol Sci-Phys	IHCAPLUS
Maughan, B	1997	30	1257	Macromolecules	IHCAPLUS
Nieuwhof, R	1998	127	115	Macromol Symp	IHCAPLUS
Nieuwhof, R	1999	32	1398	Macromolecules	IHCAPLUS
Noirbez, L	1998	80	1453	!Macromolecules, subm	IHCAPLUS
Noirbez, L	1992	12	617	Phys Rev Lett	IHCAPLUS
Percec, V	1989	22	199	IJ Mater Chem	IHCAPLUS
Percec, V	1990	.31	16558	Polymer	IHCAPLUS
Percec, V	1999	1	1	Side Chain Liquid Cr	IHCAPLUS
Pugh, C	1997	22	601	IProg Polym Sci	IHCAPLUS
Rodekirch, G	1993	194	1125	Makromol Chem	IHCAPLUS
Schibav, V	1994	1	1	Liquid Crystalline a	IHCAPLUS
Simmonds, D	1992	1	1	Liquid Crystal Polym	IHCAPLUS
Teeck, J	1996	37	4307	Polymer	IHCAPLUS
Trivedi, B	1992	1	1	Maleic Anhydride	IHCAPLUS
Tsuchida, E	1996	69	1230	Kobunshi Kagaku	IHCAPLUS
van der Wielen, M	1997	13	4762	Langmuir	IHCAPLUS
van der Wielen, M	1998	114	17065	Langmuir	IHCAPLUS

1152 ANSWER 13 OF 55
ACCESSION NUMBER: HCAPLUS COPYRIGHT 2007 ACS on STN
DOCUMENT NUMBER: 131:552124TITLE: Polyamide resin composition containing a liquid-crystalline resin and thin-walled box-type moldings therefrom
INVENTOR(S): Umetsu, Hideyuki; Sugimura, Masahiro; Makabe, Yoshiaki
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE(S): Eur. Pat. Appl., 16 pp.
CODEN: EPXDN

DOCUMENT TYPE:

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
EP 957132	A1	19991117	EP 1999-303721	19990512 <--	
EP 957132	S1	20040929			
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, PT, IE, SI, LT, LV, FI, RO					
US 6121388	A	20000919	US 1999-287045	19990406 <--	
JP 200003404	A	20000202	JP 1999-116561	19990423 <--	
PRIORITY APPN. INFO.: AB			JP 1998-129352	A 19980512 <--	

parts liquid-crystalline resin, and 0.01-5 parts acid anhydride is used for

impact-resistant box-type moldings with thin-wall parts which account for ≥10%

of the total surface area. Thus, pellets of a blend of 100 parts nylon 6

pellets (relative viscosity 2.70 mP. 222, terminal amino content 4.0 × 10⁻⁶

equiv/g); 3 parts liquid crystalline polyester having transition temperature

1153 ANSWER 13 OF 55
ACCESSION NUMBER: HCAPLUS Full-text

Chovino, C	1998	139	16385	Polymer	IHCAPLUS
Craig, A	1994	4	1705	IJ Mater Chem	IHCAPLUS
Craig, A	1995	28	13617	Macromolecules	IHCAPLUS
Davidson, P	1992	11	469	Liq Cryst	IHCAPLUS
Davidson, P	1996	21	893	Prog Polym Sci	IHCAPLUS
Davis, F	1991	24	5695	Macromolecules	IHCAPLUS
Gray, G	1979	53	1	The Molecular Physic	IHCAPLUS
Inrie, C	1993	26	53	Macromolecules	IHCAPLUS
Koltzenburg, S	1998	36	12669	IJ Polym Sci Part A: HCAPLUS	IHCAPLUS
Komber, H	1995	196	669	Macromol Chem Phys	IHCAPLUS
Leiva, A	1998	B37	45	IJ Macromol Sci-Phys	IHCAPLUS
Maughan, B	1997	30	1257	Macromolecules	IHCAPLUS
Nieuwhof, R	1998	127	115	Macromol Symp	IHCAPLUS
Nieuwhof, R	1999	32	1398	Macromolecules	IHCAPLUS
Noirbez, L	1998	80	1453	!Macromolecules, subm	IHCAPLUS
Noirbez, L	1992	12	617	Phys Rev Lett	IHCAPLUS
Percec, V	1989	22	199	IJ Mater Chem	IHCAPLUS
Percec, V	1990	.31	16558	Polymer	IHCAPLUS
Percec, V	1999	1	1	Side Chain Liquid Cr	IHCAPLUS
Pugh, C	1997	22	601	IProg Polym Sci	IHCAPLUS
Rodekirch, G	1993	194	1125	Makromol Chem	IHCAPLUS
Shibav, V	1994	1	1	Liquid Crystalline a	IHCAPLUS
Simmonds, D	1992	1	1	Liquid Crystal Polym	IHCAPLUS
Teeck, J	1996	37	4307	Polymer	IHCAPLUS
Trivedi, B	1992	1	1	Maleic Anhydride	IHCAPLUS
Tsuchida, E	1996	69	1230	Kobunshi Kagaku	IHCAPLUS
van der Wielen, M	1997	13	4762	Langmuir	IHCAPLUS
van der Wielen, M	1998	114	17065	Langmuir	IHCAPLUS

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with liquid crystalline polyester and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

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polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

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polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

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polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

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IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

type moldings therefrom)

IT: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(blends with polyamide and an anhydride;

polyamide resin composition containing a liquid-crystalline polyester and thin-walled box-

bonds induced by intermolecular hydrogen

AUTHOR(S): Yan, Hua; Zhu, Xia
CORPORATE SOURCE: Department of Petrochemistry, Logistic Engineering University, Chungking, 400016, Peop. Rep. China
SOURCE: Journal of Applied Polymer Science (1999), 74(1), 97-105
 CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal
LANGUAGE: English
 AB The liquid crystallization of general polymer (GP) with maleic **anhydride** in the main chain has been realized through mol. recognition and self-assembly based on intermol. hydrogen bonds. Poly(styrene-co-(*N*-carboxyphenyl)maleimide) (SMIBA) was synthesized by imidization and dehydration of Poly(styrene-co-maleic **anhydride**) (SMA) with p-aminobenzoic acid (ABA) for use as an H-bonded donor polymer. 4-Methoxy-4'-stilbazole (MSZ) and 4-nitro-4'-stilbazole (SZN02) were prepared as an H-bonded acceptor. SMIBA was complexed with MSZ or SZN02 by slow evaporation from pyridine solution to form a self-assembly, which exhibits the mesophase, while neither of the individual components is mesogenic. The phase diagrams of a variety of mixts. between of SMIBA and stilbazoles have been established using DSC and POM. They show complete miscibility and high thermal stability of the liquid crystalline phase over the whole composition range. The tuning of liquid crystalline properties was achieved by changing the composition of the mixture and involving it with a mixture of SZN02 and MSZ. IR measurements strongly support the existence of an H-bonded complex between the carboxylic acid of SMIBA and the pyridine group of stilbazoles. Unlike conventional side-chain liquid crystalline polymer (SLCP), supramol. SLCP with a lower mol. weight polymeric donor has higher thermal stability of the liquid crystalline phase due to the microphases separated in the hydrogen bonding case. Liquid crystallization of GP, such as SMA, induced by hydrogen bonds, offers a new route to prepare functional material with controlled mol. architecture from readily accessible and simpler precursors.

CC 36-3 (Physical Properties of Synthetic High Polymers)

ST liq **cryst** maleic **anhydride** styrene copolymer;

IT hydrogen bond copolymer liq crystn

Glass transition temperature

Hydrogen bond

Liquid crystals, polymeric

Phase diagram

Phase transition

Thermal stability

(preparation and liquid crystallization of poly(styrene-co-maleic **anhydride**))

induced by intermol. hydrogen bonds)

IT 150-13-0DP, p-aminobenzoic acid, reaction products with maleic **anhydride**-styrene copolymer, complexes with stilbazoles 722-21-4D, 4'-Methoxy-4'-stilbazole, complexes with imidized maleic **anhydride**-styrene copolymer 1023-66-1DP, 4'-Nitro-4'-stilbazole, complexes with imidized maleic **anhydride**-styrene copolymer 9011-13-6DP, Maleic **anhydride**-styrene copolymer, reaction products with p-aminobenzoic acid, complexes with stilbazoles (synthetic preparation); **PREP** (**Preparation**); **PROC** (**Process**)

(preparation and liquid crystallization of poly(styrene-co-maleic **anhydride**))

RETABLE induced by intermol. hydrogen bonds)

REFERRED BY (RAU)	REFERRED AUTHOR	YEAR (RY)	VOL (VRL)	PG (RPG)	REFERRED WORK (RNK)	REFERRED FILE
	Ahlheim, M	1994	195	361	Macromol Chem Phys	HCAPLUS
	Batulin, C	1995	128	8877	Macromolecule	HCAPLUS
	Chiang, M	1993	77	13	J Org Chem	HCAPLUS
	Cooper, K	1999	30	464	Polym Prepr	HCAPLUS
	Dhathreyan, A	1996	129	1827	Macromolecule	HCAPLUS
					[J Polym Sci Part A	HCAPLUS
	Jackson, W	1996	114	1027	Macromolecules	HCAPLUS
	Kato, T	1993	116	1027	[Angew Chem Int Ed Enl	HCAPLUS
	Kato, T	1994	37	1644	Angew Chem Int Ed Enl	HCAPLUS
	Kato, T	1999	122	3818	[J Macromolecules	HCAPLUS
	Kato, T	1996	129	8234	Macromolecule	HCAPLUS
	Kato, T	1992	125	6836	Macromolecules	HCAPLUS
	Kato, T	1995	28	8875	Macromolecules	HCAPLUS
	Kiss, G	1997	27	460	[Polym Eng Sci	HCAPLUS
	Percec, V	1992	25	2563	Macromolecule	HCAPLUS
	Ringsdorf, H	1999	28	914	[Angew Chem Int Ed Enl	HCAPLUS
	Tripathi, B	1992	1	1	Maleic Anhydride	HCAPLUS
	Ujije, S	1991	1037	1	Chem Lett	HCAPLUS
	Ujije, S	1992	125	3174	Macromolecule	HCAPLUS
	Weiss, R	1997	27	684	[Polym Eng Sci	HCAPLUS
	Xu, X	1996	17	1940	[Chem J Chin Uni	HCAPLUS
LI52	ANSWER 16 OF 55	1999-513254	HCAPLUS	Full-text		
	ACCESSION NUMBER:	1999-123112				
	DOCUMENT NUMBER:					
	TITLE:					
	AUTHOR(S):					
	CORPORATE SOURCE:					
	SOURCE:					
	PUBLISHER:					
	DOCUMENT TYPE:					
	LANGUAGE:					

AB A novel semi-crystalline polyimide prepared from the title components (TPER-BTDA) displayed significant recryst. ability from the melt. TPER-BTDA has a glass transition temperature of apprx. 230° in addition to two prominent melting endotherms with maximum m.ps. of apprx. 350° and 410°. End-capping the polymer with phthalic **anhydride** not only served to control the mol. weight but also significantly improved the thermal stability. The peculiar melting behavior, with two endotherms, changes dramatically as the crystallization temperature (Tc) is >340°. This improves the possible use of the polyimide as a high-temperature adhesive and use in high-temperature composites.

CC 36-2 (Physical Properties of Synthetic High Polymers)

ST semicryst bisaminophenoxybenzene BTDA polyimide

IT transition bisaminophenoxybenzene

Glass transition temperature

Crystallization

Glass transition temperature

Melting point

(crystallization and multiple melting behavior of semicryst. polyimide based on bis(aminophenoxy)benzene and BTDA)

IT 54570-90-0, 1,3-isobenzofuranone, 5,5'-carbonylbis-, polymer with 4,4'-(1,3-phenyleneoxy)bis(benzenamine) [54571-75-4], Poly([1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenyleneoxy-1,3-phenylene]

RL: PRP (Properties)

(phthalic anhydride-terminated; crystallization and multiple melting behavior of semicryst. polyimide based on bis(aminophenoxy)benzene and BTDA)

REFEREE REFERENCED AUTHOR (RAU) | YEAR | VOL | PG | REFERENCED WORK (RPL) | (RVL) | (PG) | REFERENCED FILE (RMK)

Chang, A. [1994] | 13 | Proceedings of the F | Polymer Preprints | HCAPLUS | R: Polymers having mesogenic side chains and properties

Graham, M. [1997] | 138 | 1306 | Polymer | HCAPLUS | R: Polymers having mesogenic side chains and properties

Ratta, V. [1999] | 140 | 1889 | Polymer | HCAPLUS | R: Polymers having mesogenic side chains and properties

Sasuga, T. [1999] | 140 | 1889 | Polymer | HCAPLUS | R: Polymers having mesogenic side chains and properties

Srinivas, S. [1997] | 132 | 1012 | Polymer | HCAPLUS | R: Polymers having mesogenic side chains and properties

Tamai, S. [1996] | 130 | 1012 | Macromolecules | HCAPLUS | R: Polymers having mesogenic side chains and properties

Tamai, S. [1996] | 137 | 13683 | Polymer | HCAPLUS | R: Polymers having mesogenic side chains and properties

Tamai, S. [1998] | 139 | 11945 | Polymer | HCAPLUS | R: Polymers having mesogenic side chains and properties

L152 ANSWER 17 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 1999-346205 HCAPLUS Full-text

DOCUMENT NUMBER: 130-352809 LIQUID CRYSTALLINE ALKENE-MALEIC

TITLE: ANHYDRIDE POLYMERS HAVING MESOCGENIC SIDE CHAINS, THEIR PREPARATION AND FILM PROPERTIES INVENTOR(S): Fawcett, Allan Herbert; Date, Richard William PATENT ASSIGNEE(S): Secretary of State for Defence, UK SOURCE: Brit. UK Pat. Appl., 46 PP.

CODEN: BAXXDU DOCUMENT TYPE: Patent

LANGUAGE: English FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO. DATE APPLICATION NO. DATE RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

GB 2328441 A 19990224 GB 1997-18184 <-> (Liquid crystalline alkene-maleic anhydride polymers having mesogenic side chains and properties)

AB: The title polymers, useful for piezoelectric device, sensor, chromatog, medium, optical storage device, nonlinear optic device, etc., are prepared by polymerization of mesogen- or hydrocarbon-containing alkenes with maleic anhydride, and derivatizing the maleic anhydride groups with alc., other mesogenic compound, amine, etc. Thus, the maleic anhydride-4-(undec-1-en-11-oxy)-4'-cyanobiphenyl copolymer had number-average mol. weight 17,200, glass transition temperature -20, and clearing temperature 10⁴.

IC ICA: C09K19-38 CC: 35-8 (Chemistry of Synthetic High Polymers)

CC: Section cross-referenc(s): 75

ST: 119 cryst alkene maleic anhydride polymer;

undecenyloxy liq crystalline maleic anhydride polymer;

130-325468 Ionomers

IT: Studies on Imidization Behaviors of Differently

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and polymerization; liquid crystalline alkene-maleic anhydride polymers having mesogenic side chains and properties)

L152 ANSWER 18 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 1999-161609 HCAPLUS Full-text

DOCUMENT NUMBER: 130-325468 TITLE:

Processed Samples of Poly(imide-alt-amic ester)
Prepared from MDPA and EFDA
Lee, Myong-Hoon; Woo, Tae Ha; Lee, Myongsoo; Lee,
Changjin; Rhee, Suh Bong
Advanced Polymer Division, KRICT, Yusung Taejeon,
305-600, S. Korea
Macromolecules (1999), 32(7), 2375-2381
CODEN: MAMOBA; ISSN: 0024-9297
American Chemical Society
Journal
English

AB Imidization behaviors of differently processed polyimide precursors were investigated for ester group-containing precursors prepared from N,N'-bis(3-aminophenyl)-2,5-bis[(isopropylidene)carbonylbenzene-1,4-dicarboxamide and 4,4'-(hexafluoroisopropylidene)dipthalic **anhydride**. The imidization temperature of polyimide precursors increase in the order bulk powder, film, stretched film, and precipitated powder, which was the increasing order of **crystallinity** of precursor samples. The **crystallinity** of precursors was preserved in the final polyimide after thermal imidization. Consequently, the morphol. of precursors affected the properties of final polyimide such as thermal stability and glass **temperature**.

CC 35-8 (Chemistry of Synthetic High Polymers)

IT Polyimides, preparation
Polyimides, preparation
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); FREP (Preparation); PROC (Process)

IT Initiation enthalpy
(imidization behaviors of differently processed samples of poly(imide-alt-amic ester) prepared from tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic **anhydride**)

IT Initiation enthalpy
(imidization behaviors of differently processed samples of poly(imide-alt-amic ester) prepared from tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic **anhydride**)

		tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic anhydride)
IT	Polyamic acids	PRP (Properties); PROC (Process)
IT	Polyamic acids	RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
IT	Polyamic acids	(polyimide-, fluorine-containing, ester; imidization behaviors of differently processed samples of poly(imide-alt-amic ester) prepared from tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic anhydride)
IT	Fluoropolymers, preparation Fluoropolymers, preparation Fluoropolymers, preparation PROC (Process)	RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); FREP (Preparation); PROC (Process)
IT	Fluoropolymers, preparation Fluoropolymers, preparation PROC (Process)	(imidization behaviors of differently processed samples of poly(imide-alt-amic ester) prepared from tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic anhydride)
IT	IT 1951-57-9 1952-15-09-9 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); FREP (Preparation); PROC (Process)	(imidization behaviors of differently processed samples of poly(imide-alt-amic ester) prepared from tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic anhydride)
IT	IT 1951-50-64-2P RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); FREP (Preparation); PROC (Process)	(imidization behaviors of differently processed samples of poly(imide-alt-amic ester) prepared from tetracarboxylic acid diamide diester and (hexafluoroisopropylidene)dipthalic anhydride)

TABLE

Referenced Author (RAU)	Year (RY)	VOL (VRL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Borer, G	1963	1	13135	J Polym Sci, Part A HCAPLUS	
Breker, M	1967	125	2479	J Polym Sci, Part A HCAPLUS	
Chen, K	1983	148	1291	J Appl Polym Sci HCAPLUS	
Dine-Hart, R	1967	11	609	J Appl Polym Sci HCAPLUS	
Goechslau, U	1994	1272	1039	Colloid Polym Sci HCAPLUS	
Johnson, E	1971	8	1039	J Appl Polym Sci HCAPLUS	
Kreuz, J	1966	4	12607	J Polym Sci, Part A-1 HCAPLUS	
Laius, L	1989	389	1389	Polyimides HCAPLUS	
Lee, M	1997	118	177	Macromol Symp HCAPLUS	
Miwa, T	1997	138	4945	Polymer HCAPLUS	
Nimata, S	1988	28	906	Polym Eng Sci HCAPLUS	
Park, J	1994	127	3459	Macromolecules HCAPLUS	
Ree, M	1995	35	1229	Polym Bull HCAPLUS	
Rhee, S	1995	196	691	Macromol Chem Phys HCAPLUS	
Sroog, C	1993	26	404	Macromolecules HCAPLUS	
Takahashi, N	1997	11	161	J Polym Sci, Macromol HCAPLUS	
	1984	117	2583	Macromolecules HCAPLUS	

L152 ANSWER 19 OF 55	HCAPLUS	COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:	1999-1149629	HCAPLUS Full-text
DOCUMENT NUMBER:	130-1282648	
TITLE:	Study on PC/PET/PB-g-MAH blend	
AUTHOR(S):	Xi, Shiping; Peng, Yiren; Liu, Chi; Liu, Zengxing	
CORPORATE SOURCE:	Department of Chemistry, Zhongshan University, Canton,	

- RU: POF (Polymer in formulation); USES (Uses)
(acrylate-crosslinked pigmented film; liquid-crystalline, crosslinkable siloxanes for crosslinked products with low glass temperature for pigments)
- IT 21505-62-8P 219502-29-1P RU: IMF (Industrial manufacturer); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(pigment precursor; liquid-crystalline, crosslinkable siloxanes for crosslinked products with low glass temperature for pigments)
- IT 6800-35-2P, Potassium methacrylate 61493-63-8P 219502-00-8P 219502-02-0P 219502-03-1P
219305-30-3P 219501-98-1P 219502-05-4P 219502-08-6P 219502-09-7P
219502-04-2P 219502-11-1P 219502-14-8P 219502-16-6P 219502-17-7P 219502-18-8P
219502-19-9P 219502-20-2P 219502-21-3P 219502-22-4P 219502-23-5P
219502-24-6P 219502-25-7P 219502-26-8P 219502-27-9P 219502-28-0P
- RU: IMF (Industrial manufacturer); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(pigment precursor; liquid-crystalline, crosslinkable siloxanes for crosslinked products with low glass temperature for pigments)
- IT 92-88-6, [1,1'-Biphenyl]-4,4'-diol 106-95-6, Allyl bromide, reactions 108-30-5, Succinic anhydride, reactions 110-52-1, 1,4-dibromobutane 123-08-0, 4-Hydroxybenzaldehyde 124-41-4, Sodium methoxide 760-73-0, Maleic anhydride 868-77-9
927-58-2 997-46-6, 1,4-Butandiole 4224-70-8,
6-Bromoheptanoic acid 4753-59-7, 4-Bromobutyl acetate 7719-09-7,
Thionyl chloride 27914-73-4, 4-Acetoxybenzyl chloroformate 31480-93-0,
Hydroquinone monomethacrylate 36844-51-6, 4-Allyloxybenzoyl chloride 53201-62-0, Hydroquinone bis(4-hydroxybenzoate) 85234-29-3, Hydroquinone bis(4-allyloxybenzoate) 128422-75-3, 4-Hydroxyphenyl 4-allyloxybenzoate 219502-10-0 219502-13-3 219502-15-5
- RU: RCT (Reactant); RACT (Reactant or reagent)
(pigment precursor; liquid-crystalline, crosslinkable siloxanes for crosslinked products with low glass temperature for pigments)
- IT 2370-88-9DP, 1,3,5,7-tetramethylcyclotetrasiloxane, reaction products with cholesteryl allyloxybenzoate and (methacryloyloxykoxophenyl) allyloxybenzoate, polymers with cholesteryl methacrylate 33109-51-4DP, Cholesteryl methacrylate, polymers with cholesteryl allyloxybenzoate-adducts 33953-73-5DP, reaction products with tetramethylcyclotetrasiloxane-methacryloyloxykoxophenyl allyloxybenzoate allyloxybenzoates, polymers with cholesteryl methacrylate 219305-30-3DP, reaction products with cholesteryl allyloxybenzoate and tetramethylcyclotetrasiloxane, polymers with cholesteryl allyloxybenzoate 219502-04-2DP, reaction products with cholesteryl methacrylate tetramethylcyclotetrasiloxane, polymers with cholesteryl methacrylate
- RU: IMF (Industrial manufacturer); PREP (Preparation); USES (Uses)
(pigment; liquid-crystalline, crosslinkable siloxanes for crosslinked products with low glass temperature for pigments)

REFERAL	Referenced Author (RAU)	Year (RAU)	VOL (RIVL)	PG (RIVL)	Referenced Work (RWK)	Referenced File
Consortium Fur Elektroc1990		1	IEP 035208 A		IEP 035208 A	HCAPLUS
Consortium Fur Elektroc1994		1	IDE 424043 A		IDE 424043 A	HCAPLUS
Consortium Fur Elektroc1996		1	IEP 0711780 A		IEP 0711780 A	HCAPLUS
Diamler-Benz Ag [1996]		1	IEP 0724005 A		IEP 0724005 A	HCAPLUS

L152 ANSWER 22 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998-231330 HCAPLUS Full-text
DOCUMENT NUMBER: 128-271478
TITLE: Electrical insulation using liquid crystal thermoset epoxy resins and insulating electric conducting

1998-316346 HCAPLUS Full-text
ACCESSION NUMBER: 129-4916 HCAPLUS Full-text
DOCUMENT NUMBER:
TITLE:

LIQUID CRYSTALLIZATION OF SMA INDUCED BY HYDROGEN BONDS - SYNTHESIS AND CHARACTERISTIC OF SIDE-CHAIN LIQUID CRYSTALLINE POLYMER COMPLEXES DUE TO SINGLE HYDROGEN BONDS
Yan, Hua; Li, Baofang; Xie, Xiaolin; Pan, Zuren
Polymerization Engineering State Key Lab, Zhejiang University, Hangzhou, 310027, Peop. Rep. China
Ganggang Gaofenzi Xuebao (1998), 11(1), 91-94
CODEN: CGXUEH; ISSN: 1004-9843
Huadong Huagong Xueyuan Chubanshe
Journal
Chinese
AB: Monoester of *P*(styrene-co maleic anhydride) (MSA) containing a 4-oxybenzoic acid unit in its side-chain and 4-stilbazole (4SZ) were synthesized. The complex was prepared by slowing evaporation from THF solution containing equimolar of MS-SMA and 4SZ with vacuum drying at 50 °C for 24 h. DTA and polarized optical microscope (POM) were utilized to investigate the liquid crystal behavior of complex. IR spectra of the complex shows the existence of the intermolecular hydrogen bonds between carboxyl group and pyridine ring. The generation of liquid crystalline phase induced by hydrogen bonds from copolymer is unprecedented. This approach offers a relatively simple route for the liquid crystallization of universal polymers, such as SMA.
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 75
ST Styrene maleic anhydride copolymer; liquid crystal
cryst styrene maleic anhydride copolymer; hydrogen bond
styrene maleic anhydride copolymer; side chain liquid crystal polymer
complex; stilbazole styrene maleic anhydride copolymer complex
IT Polymer morphology
(crystalline; synthesis and characteristic of side-chain liquid crystal
maleic anhydride-styrene copolymer-stilbazole complexes due to single hydrogen bonds)
IT Glass transition temperature
Hydrogen bond
Liquid crystals, polymeric
Polymerization
(synthesis and characteristic of side-chain liquid crystalline
maleic anhydride-styrene copolymer-stilbazole complexes due to single hydrogen bonds)
IT 103-31-DF, 4-Stilbazole, complexes with ester or maleic anhydride
IT RCT (Reactant); RACT (Reactant or reagent)
(preparation of stilbazole from benzaldehyde and methylpyridine)
IT 103-31-DF, 4-Stilbazole, complexes with ester or maleic anhydride
with stilbazole 207353-13-7DP, complexes
(Preparation)
IT SPN (Synthetic Preparation); PREP
(Preparation)
(synthesis and characteristic of side-chain liquid crystalline
maleic anhydride-styrene copolymer-stilbazole complexes due to single hydrogen bonds)

L152 ANSWER 22 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998-231330 HCAPLUS Full-text
DOCUMENT NUMBER: 128-271478
TITLE: Electrical insulation using liquid crystal thermoset epoxy resins and insulating electric conducting

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- Zhao, Y | 1991 | 18 | 134 | [Chemical Research in] | HCAPLUS
- 1152 ANSWER 24 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN | 1998:163668 HCAPLUS Full-text
- ACCESSION NUMBER: 128:244398
- DOCUMENT NUMBER: Adhesive Liquid-Crystalline Polymers
- AUTHOR(S): Nijswuhof, Rane P.; Marcellis, Antonius T. M.; Schooteler, Ernst J. R.; Van Der Wielten, Maarten W. J.; Cohen Stuart, Martien A.; Fleer, Gerard J.
- CORPORATE SOURCE: Lab. Organic Chem., Wageningen Agricultural Univ., Wageningen, 6703 HB, Neth.
- SOURCE: Macromolecular Symposia (1998), 127(Rolduc Polymer Meeting 10: "Petro" Polymers vs. "Green" Polymers, 1997), 115-121
- PUBLISHER: CODEN: MSYMPC; ISSN: 1022-1360
- DOCUMENT TYPE: Ruetting & Wepf Verlag
- LANGUAGE: English
- AB The synthesis and characterization of liquid-crystalline polymers with possible good adhesive properties is reported. These polymers are prepared by alternating copolymer of maleic anhydride and mesogenic alkenes. The spacer length m is varied (m = 2, 3, 4, 6, 8, and 9) and methoxybiphenyl is used as mesogenic group. The glass transition temperature decreases and the isotropization temperature increases with spacer length. Depending on the spacer length and temperature, SB and SD mesophases can be observed. After annealing, spin-coated films of these polymers show very regular layered structures with a layer spacing similar to that in the bulk.
- CC 36-5 (Physical Properties of Synthetic High Polymers)
- Section cross-references: 35
- ST Liquid crystal polymer methoxybiphenylmethoxyalkene maleic anhydride
- IT Liquid crystals, polymeric
- Phase transition temperature (characterization of side-chain liquid-crystalline polymers containing methoxybiphenylmethoxyalkyl groups)
- IT Molecular structure-property relationship (entropy, phase transition temperature; characterization

- of side-chain liquid-crystalline polymers containing methoxybiphenylmethoxyalkyl groups)
- IT 205035-53-CP | 205035-56-9P | 205035-59-2P | 205035-60-5P | 205035-61-6P
- RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (characterization of side-chain liquid-crystalline polymers containing methoxybiphenylmethoxyalkyl groups)
- 1152 ANSWER 25 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN | 1997:496304 HCAPLUS Full-text
- ACCESSION NUMBER: 127:177581
- DOCUMENT NUMBER: Modification of properties by free-radical copolymerization of chloroprene
- TITLE: Schmidt-Nassek, Guðrun; Blörlach, Magdalena
- AUTHOR(S): Institute Technische Chemie, Technische Universität Clausthal, Clausthal-Zellerfeld, Germany
- CORPORATE SOURCE: Kautschuk Gummi Kunststoffe (1997), 50 (6), CODEN: KGUKAC; ISSN: 0022-9520
- SOURCE: Huetting Journal
- PUBLISHER: Huetting
- DOCUMENT TYPE: German
- LANGUAGE: In order to modify polychloroprene it was tested to change properties, e.g. elasticity and increase thermostability, colorability, and adhesion, through copolymer of chloroprene with small amts. of comonomer (5-10%). Comonomers are acceptor systems with cyclic imide (maleic imides), and anhydrides structures (maleic acid anhydride, itaconic acid anhydride, and citraconic acid anhydride) as well as their acids. Reactivity ratios and α -values are given. The copolymers of these copolymers are compared with the homopolymer and the copolymers of chloroprene with vinyl acetate and Me methacrylate.
- CC 39-5 (Synthetic Elastomers and Natural Rubbers)
- ST Kinetics radical chloroprene imide anhydride; reactivity ratio polyan chloroprene imide anhydride; crystallinity chloroprene polymer imide anhydride acid; glass temp
- IT Reactivity ratio in polymerization (in modification of chloroprene properties by free-radical copolymer with cyclic imides and anhydrides and unsatd. acids)
- IT Crystallinity Glass transition temperature (modification of chloroprene properties by free-radical copolymer with cyclic imides and anhydrides and unsatd. acids)
- IT Polymerization kinetics (radical; of chloroprene with cyclic imides and anhydrides and unsatd. acids)
- IT 108-05-4, Vinyl acetate, properties 108-31-6, Maleic anhydride, properties 110-16-7, Maleic acid, properties 126-99-8, Chloroprene, properties 126-23-7, Citraconic acid, 541-59-3, Maleimide 616-02-4, Citraconic anhydride, 941-69-5, N-Phenylmaleimide 1631-25-0, N-Cyclohexylmaleimide 1631-26-1,
- RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); REACT (Reactant or reagent) (kinetics of chloroprene free-radical copolymer. with cyclic imides and anhydrides and unsatd. acids)

- IT 9010-98-4P, Polychloroprene 25776-93-6P, Chloroprene-vinyl acetate copolymer 26264-80-2P, Chloroprene-methyl methacrylate copolymer 27324-79-4P, Chloroprene-maleic acid copolymer 168265-42-7P, Chloroprene-maleimide copolymer 168265-43-8P, Chloroprene-N-cyclohexylmaleimide copolymer 168265-44-9P, N-Benzylmaleimide copolymer 168265-45-0P, Chloroprene-N-phenylmaleimide copolymer 168265-46-1P, Chloroprene-citraconic anhydride copolymer 168265-47-2P, Chloroprene-citraconic acid copolymer 168265-49-3P, Chloroprene-citraconic acid copolymer 168265-49-4P, Chloroprene-maleic acid copolymer **PREP (Preparation)**; SPN (Synthetic preparation); **Properties** (Modification of chloroprene properties by free-radical copolymer with cyclic imides and anhydrides and unsatd. acids)
- L152 ANSWER 26 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:49:1816 HCAPLUS Full-text
DOCUMENT NUMBER: 127:176307
TITLE: Order in Thin Films of Side-Chain Liquid-Crystalline Polymers
AUTHOR(S): van der Wielen, M. W. J.; Stuart, M. A. Cohen; Fleer, G. J.; de Boer, D. K. G.; Lenaers, A. J. G.; Nieuwhof, R. P.; Marcelis, A. T. M.; Sudhoelter, E. J.
CORPORATE SOURCE: Department of Physical and Colloid Chemistry, Wageningen Agricultural University, Wageningen, 6703 HB, Neth.
SOURCE: Polymer (1997), 13(17), 4762-4766
CODEN: LANGD5; ISSN: 0943-7463
PUBLISHER: American Chemical Society
LANGUAGE: English
AB Spin-coated side-chain liquid-crystalline polymer films, based on alternating copolymers of maleic anhydride and α -olefins carrying terminal mesogenic methoxybiphenylyloxy groups, on silicon wafers show lamellar ordering upon annealing above the glass transition temperature. In the surface topography (atomic force microscopy measurements), structures are visible with a height corresponding to a bilayer. Also within the film, the side chains are ordered perpendicularly to the surface as measured by X-ray reflectometry. There are indications that directly at the substrate surface the side chains are aligned parallel to the surface. By the two complementary techniques, a rather complete picture is obtained. Even though the films are very thin (nanometer-scale thickness), the structure has a high degree of perfection and the bilayer spacing is the same as measured for bulk polymer.
- CC 36-2 (Physical Properties of Synthetic High Polymers)
ST Order side chain liq cryst polymer; maleic anhydride copolymer
liq cryst order; olefin copolymer liq cryst order
IT Alkenes, properties
RU: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
- IT **108-31-0D**, 2,3-furanone, alternating copolymers with α -olefins, methoxybiphenylyloxy group-containing; order in thin films of side-chain liquid-crystalline polymers)
- IT **108-31-0D**, 2,3-furanone, alternating copolymers with α -olefins, methoxybiphenylyloxy group-containing, properties (Uses)

(order in thin films of side-chain liquid-crystalline polymers)					
REFID#	Referenced Author (RAU)	Year (R PY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)
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	Chapoy, L.	1985			Recent Advances in Li
	Ciferri, A.	1991			Liquid Crystallinity
	Collyer, A.	1992			Liquid Crystal Poly
	Elben, H.	1993	126	1013	Macromolecules
	Frost, A.	1974	47	731	Izh Prikl Khim
	Gray, G.	1987			HCAPLUS
	Henn, G.	1996	221	174	Thermotropic Liquid
	Leenarts, A.				Phys B
	Macarole, C.	1989			X-Ray Spectrom, in P
	Mensinger, H.	1992	96	3183	Side chain liquid cr
	Navot, L.	1980	115	761	J Chem Phys
	Nieuwhof, R.				Rev Phys Appl
	Russell, T.	1990	5	171	To be published
	Sheiko, S.	1996	12	4015	Mater Sci Rep
	Wong, G.	1996	77	5221	Langmuir
					Phys Rev Lett
L152 ANSWER 27 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 1997:49:1816 HCAPLUS Full-text					
DOCUMENT NUMBER: 127:176307					Study on the structure and miscibility of PBPI-E/PTI-E blends
TITLE: Order in Thin Films of Side-Chain Liquid-Crystalline Polymers	AUTHOR(S): Tang, Hao; Feng, Hangjiao; Dong, Lisong; Feng, Zhi Liu				
	CORPORATE SOURCE: Chinese Academy Sciences, Changchun Inst Applied Chem., Rep. China				
	DOCUMENT NUMBER: 126:144791				
	TITLE: Study on the structure and miscibility of PBPI-E/PTI-E blends				
	SOURCE: European Polymer Journal (1997), 33 (2), 183-186				
	AUTHOR(S): CODEN: EUPJAG; ISSN: 0014-3057				
	CORPORATE SOURCE: Elsevier				
	DOCUMENT TYPE: Journal				
	LANGUAGE: English				
	AB The crystallization, miscibility and structure of polyimide PBPI-E/PTI-E blends were studied by DSC, DMA, NMR and fluorescence techniques (PBPI-E is a biphenylidianhydride-based polyimide). The PBPI-E/PTI-E blends are miscible at a mol. 4,4'-oxydianiline copolymer. The Tg of the blends is well below the value predicted by the Fox equation and the blends are not stable at high temperature; i.e., phase transition will occur when the blends are annealed at Tg. Moreover, the m.p., differential enthalpy and spin-lattice relaxation time of the blends increase with the annealing time.				
	CC 36-6 (Physical Properties of Synthetic High Polymers) IT Crystallinity				
	ST Order side chain liq cryst polymer; maleic anhydride copolymer liq cryst order; olefin copolymer liq cryst order				
	IT 108-31-0D , 2,3-furanone, alternating copolymers with α -olefins, methoxybiphenylyloxy group-containing; order in thin films of side-chain liquid-crystalline polymers)				
	IT 108-31-0D , 2,3-furanone, alternating copolymers with α -olefins, methoxybiphenylyloxy group-containing, properties (Uses)				
	RU: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)				

L152 ANSWER 28 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:466256 HCAPLUS Full-text

DOCUMENT NUMBER: 125:1:69113

TITLE: Influence of melt stability on the crystallization of bis(4-aminophenoxy)benzene-oxydiphtalic anhydride based polyimides

AUTHOR(S): Srinivas, Srivatsan; Graham, Marvin; Brink, M. Heather; Gardner, Slade; Davis, Richey M.; McGrath, James E.; Wilkes, Garth L.

CORPORATE SOURCE: Dep. Chem. Eng., Chem., Virginia Tech., Blacksburg, VA, 24061, USA

SOURCE: Polymer Engineering and Science (1996), 36(14), 1928-1940

CODEN: PYESAZ; ISSN: 0032-3888

PUBLISHER: Society of Plastics Engineers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Novel high performance semicrystalline polyimides, based on controlled mol. weight phthalic anhydride (PA)-end-capped 1,4-bis(4-aminophenoxy)benzene (TPEQ diamine) and oxydiphtalic anhydride (ODPA), were synthesized. The polyimides exhibited excellent thermal stability in N and air as determined by thermogravimetric anal. (TGA). The glass transition temp. (T_g) for these polymers ranged from 225° for the 10,000 Mn (10K) polymer, to 238° for the 30,000 (30K) Mn material. The observed melting temps. for all the polymers were approx. 420°. The crystallization behavior of these polymers showed a strong mol. weight dependence, as illustrated by the observation that the 10K and 12.5K polymers crystallized with relative ease, whereas the 15K, 20K, and 30K polymers showed little or no ability to undergo thermal recryst. The thermal stability of these polymers above T_g was investigated by studying the effect of time and temperature in the melt on the cold crystallization and melting of these polymers. Increased time and temperature in the melt resulted in lower crystallinity because of melt state degradation, such as crosslinking and branching, as evidence by an increase in melt viscosity, which was more prominent for the higher mol. weight polymers.

CC 36-3 (Physical Properties of Synthetic High Polymers)
ST melt stability polyimide; crystal; bisaminophenoxybenzene oxydiphtalic anhydride polyimide; thermal stability bisaminophenoxybenzene polyimide; crystal

IT **Glass temperature and transition**

Heat of crystallization

(mol. weight dependence and melt stability effects on crystallization and thermal stability of bis(4-aminophenoxy)benzene-based polyimides)

IT Polyimides; properties; SPN (Synthetic preparation); PREP (Preparation)

(mol. weight dependence and melt stability effects on crystallization and thermal stability of bis(4-aminophenoxy)benzene-based polyimides)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

IT RL: PRP (Properties); SPN (Synthetic preparation); PREP

(mol. weight dependence and melt stability effects on crystallization and thermal stability of)

CRYSTALLINE material and their preparation and use

Mueller-Rees, Christoph; Jung, Silvia; Doppelberger, Johann; Goebelmaier, Walter
Consortium fuer Elektrochemische Industrie GmbH,
Germany

Ger. Offen., 14 pp.

Patent

German

Family acc.

Nom. count:

1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

DE 1994-4416191

A1

19951109

DE 1994-4416191

A

19951121

JP 1995-107601

A

19981222

US 1995-132228

A

19951107

CA 1995-2148573

C

19990914

EP 1995-106759

A1

19951213

EP 1995-106759

B1

19980128

R: CH, DE, FR, IT, LI, SE

B1

19981001

KR 1995-11064

A

1994-4416191

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1994-4416191

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19950506

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AB

Substance with liquid-crystalline structure having a chiral phase provide a pearlescent effect. Thus, a solution of cholesterol 4-(allyloxy)benzoate 233, 4-(trimethylsilyloyl)phenyl 4-(allyloxy)benzoate 178, and tetramethylcyclotetrasiloxane 56.9 g in 400 mL toluene was heated in the presence of a pt complex catalyst, heated with NaOH to remove the Me3Si group, concentrated, condensed with methacrylic anhydride, and the product precipitated to give a polymer with glass-transition temperature 14° and forming a liquid-crystalline melt. This material was warmed, mixed with Irgacure 907, coated at 7- μ m thickness on a PET film, and cured by UV irradiation; the cured coating was removed from the substrate film, milled with and sieved to give a red pearl-like pigment.

ICM C09B067-20

ICG C09B067-22; C09K19-38; C09D017-00; C09D005-28; C09D005-29;

A61K007-00

C09D183-04; C09D163-00; C09D133-00; C09D193-00; C09D135-00; C09D101-08;

CC C09D161-14; C09D161-20

CC 42-6 (Coatings, Inks, and Related Products)

Section cross-reference(s): 75

ST Interference pigment liq. cryst siloxane

IT Liquid crystals, polymeric pigments

(Interference pigments of a crosslinked liquid-crystalline material)

IT Siloxanes and Silicones, uses

IT PL: IMF (Industrial manufacture); USES (Uses)

(Interference pigments of a crosslinked liquid-crystalline material)

IT (allyloxy)benzoate esters, polymers, crosslinked.

IT Cholesterol methacrylate, polymers with acrylic siloxanes

crosslinked.

IT 2370-88-9DP, tetramethylcyclotetrasiloxane, reaction products with

IT (allyloxy)benzoate esters, polymers, crosslinked.

IT Cholesterol methacrylate, polymers with tetramethylcyclotetrasiloxane, polymers,

crosslinked.

IT 121057-35-0DP, reaction products with

IT tetramethylcyclotetrasiloxane, polymers, hydrolyzed, methacrylate ester,

crosslinked

RL:	IMF (Industrial manufacturer); USES (Uses)	TM (Technical or engineering material)
	(Interference pigments of a crosslinked liquid-crystalline material)	
IT	76-9-3-0 , Methacrylic anhydride RL: RCT (Reactant); RACT (Reagent or reagent) (reaction with ethylphenyl hydroxybenzoate).	
ITL152 ANSWER 30 OF 55	HCAPLUS COPYRIGHT 2007 ACS on STN 1995-466034 HCAPLUS Full-text	
ACCESSION NUMBER:	122-181836	
DOCUMENT NUMBER:	Macromolecules (1995), 28(8), 2845-51	
TITLE:	CODEN: MAMOBX; ISSN: 0024-9297	
AUTHOR(S):	Chen, Hsin-Lung	
CORPORATE SOURCE:	Department of Chemical Engineering, Chang Gung College of Medicine and Technology, Taoyuan, 33333, Taiwan	
SOURCE:	Macromolecules	
PUBLISHER:	American Chemical Society	
DOCUMENT TYPE:	Journal	
LANGUAGE:	English	
AB	The miscibility and crystallization behavior of poly(ethylene terephthalate) (PET)/Ulet 1000 poly(ether imide) (PEI) blends have been investigated by solution precipitation from two solvents: a phenol/tetrachloroethane mixed solvent and dichloroacetic acid. It was found that the compatibility of the as-prepared blends depended on the solvent. Dichloroacetic acid appeared to provide better segmental mixing for PEI than the mixed solvent of phenol and tetrachloroethane. The compatibilities of the blends as prepared from both solvents could be enhanced by melt annealing. The composition dependence of Tg of PET/PEI blends exhibited a cusplike shape at the composition of wPEI ≈ 0.60 and was analyzed using the classical Gordon-Taylor's equation and the free volume theory of Brau-Kovacs. The crystallinity measured from the enthalpy of melting displayed a monotonic increase with increasing PEI content in the composition range of wPEI > 0.4, which stayed approx. constant for wPEI < 0.4. The effect of blending with PEI on the multiple melting behavior of PET was also investigated. The highness of melting endotherm was found to diminish with increasing PEI content in blends, showing that the crystallinity of PET after the initial melting was hindered by the presence of PEI. After the crystallization of PET, a segregation of PEI was observed. Such segregation of PEI was accompanied by a significant increase in spherical nucleation d. The monitoring of shift during crystallization and the morphol. observation by optical microscopy suggested that the crystallization was coupled with a liquid phase separation, where the miscible melt demixed into the PET-enriched and the PEI-rich phase. The morphol. created by the liquid-liquid phase separation and the nucleation at the domain interfaces may account for the dramatic increase in nucleation d.	
36-6 (Physical Properties of Synthetic High Polymers)	36-6 (Physical Properties of Synthetic High Polymers)	
crystallinity poly(ethylene terephthalate) polyether polyimide blend;	crystallinity poly(ethylene terephthalate) polyether polyimide blend;	
miscibility: poly(ethylene terephthalate) polyether polyimide blend	miscibility: poly(ethylene terephthalate) polyether polyimide blend	
Solvent effect (in blend preparation): on miscibility and crystallization behavior of poly(ethylene terephthalate) blends with poly(ether-polyimide) Plastics	(miscibility and crystallization behavior of poly(ether-polyimide) PROC (Process))	
IT	IT	

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|------|--|
| IT | Polyimides, preparation
RU: SPN (Synthetic preparation); PREP (Preparation)
(polyester-, preparation and crystallinity and morphol. of) |
| IT | Polyesters, preparation
RU: SPN (Synthetic preparation); PREP (Preparation) |
| IT | (polyimide-, preparation and crystallinity and morphol. of)
RU: SPN (Synthetic preparation); PREP (Preparation) |
| IT | 125776-59-2P 146185-57-1P 146219-77-4P 147881-38-7P 147
147881-40-1P 147934-32-5P 147934-33-6P 147
147934-35-8P 147934-36-9P 147934-37-0P 147934-38-1P 147
147934-40-5P 147934-41-6P 148130-62-5P 148130-63-6P 148
148130-65-8P 148130-67-0P 148130-68-1P 148
148130-70-5P 148130-71-6P 148130-72-7P 148130-73-8P 148
148130-75-0P 148130-76-1P 148130-78-3P 148130-79-4P
RU: SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystallinity and morphol. of) |
| L152 | ANSWER 32 OF 55 HCPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992-427290 HCPLUS Full-text
DOCUMENT NUMBER: 117:27290
TITLE:
AUTHOR(S): Harzis, F. W.; Hsu, S. L. C.; Lee, C. J.; Li, Arnold, F.; Cheng, S. Z. D.
CORPORATE SOURCE: Inst. Polym. Sci., Univ. Akron, Akron, OH,
USA
SOURCE: Materials Research Society Symposium Proceed
1991), 227(Mater. Sci. High Temp. Polym.
Microelectron.), 3-9
CARENT: MRSPDH; ISSN: 0272-9172
DOCUMENT TYPE: Journal
LANGUAGE: English
AB: 2,2'-Bis(trifluoromethyl)-4,4'-diaminobiphenyl (1) is polycondensed with different dicarboxylic acid dihydrides to form fluorinated polyimides in organic solvents. The solubility of the polyimides in organic solvents is measured. The films can be cast from m-cresol at 100 °C. The polyimides have glass transition temps. >275 °C and have good thermal and thermooxidative properties. Prepared from I and 3,3',4,4'-tetracarboxybibiphenyl dihydride v 130 GPa and tensile strength of 3.2 GPa. The thermal expansion dielectric constants of the films are -2.4 × 10-6 and 2.5, resp. The based on I and 4,4'-hexafluoroisopropylidenebis(phthalic anhydride) liquid crystalline spherulites.
CC: 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 40, 75
Polymerization
(of bis(trifluoromethyl)diaminobiphenyl with dicarboxylic dihydrides)
IT: Birefringence
Dielectric constant and dispersion
Glass temperature and transition
(of fluorinated polyimides)
IT: Synthetic fibers, Polymeric
RU: SPN (Synthetic preparation); PREP (Preparation)
(biphenyltetra carboxylic dihydride-
bis(trifluoromethyl)benzidine, preparation and mech. and the dielec.
IT: Properties of
Synthetic fibers, Polymeric
RU: SPN (Synthetic preparation); PREP (Preparation)
(biphenyltetra carboxylic dihydride-
bis(trifluoromethyl)benzidine, preparation and mech. and the dielec. |

129219-41-6P 129219-43-SP 129219-44-9P
 RL: SPN (synthetic preparation); **PRP (Preparation)**

(preparation and mech. and thermal and dielec. properties of)

L152 ANSWER 33 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 199211:184568 HCAPLUS Full-text
 DOCUMENT NUMBER: 116:184568
 TITLE: Low fusing temperature toner powder of cross-linked crystalline and amorphous polyester blends
 INVENTOR(S): McCabe, John M.; Wilson, John C.
 PATENT ASSIGNEE(S): Eastman Kodak Co., USA
 SOURCE: U.S., 9 PP.
 CODEN: USXKAM
 Patent
 DOCUMENT TYPE:
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PARENT INFORMATION:
 PARENT NO. KIND DATE APPLICATION NO. DATE

 US 5057392 A 19910115 US 1990-563003 19900806 <--
 AB A process for preparing a blend for a low fusing temperature toner powder comprises: (a) admiring together: (1) a crystalline polyester (C-PE), having a glass transition temperature (Tg) of about -5° to about 10°, a m.p. of approx. 90-110°, a number average mol. weight (.hvin.Mw) of approx. 1000-3000, and a weight average mol. weight (.hvin.Mw) of approx. 2000-6000; of approx. 55-75°, a .hvin.Mw of approx. 2000-9000, and containing an average of .apprx. 0.1-1.0 reactive carboxyl groups per mol.; (3) a low mol. weight epoxy novolac resin having an epoxy functionality of .apprx. 2.5-6; and (4), a crosslinking catalyst; (b) melt blending the mixture at .apprx. 50-240°; and (c) annealing the melt blended mixture at a temperature above the Tg of the a-PE and below the m.p. of the c-PE to recrystallize as dispersed small particles within a matrix phase comprised of a cross-linked polymeric reaction product of the a-PE and the epoxy novolac resin. The polymer blend is also claimed. The toner has excellent storage and grindability properties.

IC ICM C08F020-00
 INCL ICS G03G09/08

INCL ICS G03G19/00
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Electrophotographic developers

(toners, containing low fusing temperature polyester blend
 IT 58901-63-6, 1,4-Butanediol-1,6-hexanediol-isophthalic acid-terephthalic acid copolymer 62511-149-3, 1,4-Butanediol-1,6-hexanediol-terephthalic acid copolymer 12339-94-00, reaction product with trimellitic anhydride)

RL: USES (Uses)

(crystalline, electrophotog. toners with blend containing)
 IT 552-30-7D, reaction product with polyesters 139841-95-0
 RL: USES (Uses)

(electrophotog. toners with blend containing)

IT 139941-93-8P, reaction product with trimellitic anhydride
 RL: RCT (Reactant); **PRP (Preparation); RACT (Reactant or reagent)**

(preparation and crosslinking of, with epoxy resin, electrophotog. toners with blend containing)

IT 139941-94-9P, reaction product with trimellitic anhydride
 RL: **PRP (Preparation)**
 (preparation of, for electrophotog. toner blend)

L152 ANSWER 34 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1991-681094 HCAPLUS Full-text

DOCUMENT NUMBER: 115:281094
 TITLE: Chemistry and properties of controlled molecular

weight end-capped LARC-CPI
 Hergenrother, Paul M.; Havens, Stephen J.
 Langley Res. Cent., NASA, Hampton, VA, 23665-5225, USA

AUTHOR(S):
 CORPORATE SOURCE:
 SOURCE: International SAMPE Symposium and Exhibition (1991), 36(1), 56-67
 CODEN: ISSEBG; ISSN: 0891-0138

DOCUMENT TYPE:
 LANGUAGE:

AB The title aromatic poly(ether ketone imide) having phthalic anhydride terminal group was prepared and characterized, and various properties of its graphite fiber laminates were studied. As the mol. wts. (M) of the polymer decreased, the fracture energy also decreased significantly while the toughness at M = 10,871 g/mol, the films of this polymer were brittle. After quenching the sample at 373° and returning, a glass temperature at 209°, an exothermic peak at 227° due to crystallization, and an endothermic peak at 351° due to melting of the crystalline region were observed. As M decreased, the polymer became easier to compression mold. The polymer with M = 8236 g/mol gave high Ti-Ti adhesive tensile shear strengths at 24, 177, and 200°, and unidirectional uniaxial graphite fiber laminates with good flexural properties at 24, 200, and 232°. Excellent retention of laminar flexural properties were observed at 200° after aging for 100 h at 316° in circulating air.

CC 37-4 (Plastics Manufacture and Processing)
 ST Section cross-reference(s): 35, 38
 AB A process for preparing a blend for a low fusing temperature polyketone CPI; mol wt endcapped polyimide property anhydride endcapped polyimide property thermal property anhydride endcapped polyimide; mech property anhydride endcapped polyimide; adhesive strength endcapped polyimide titanium; polyether polyketone polyimide endcap property

IT Heat-resistant materials (anhydride-endcapped polyether-polyimide-graphite fiber laminates, preparation and characterization of, fiberisation)

IT Glass temperature and transition (of anhydride-endcapped polyether-polyketone-polyimide, mol. weight effect on)

IT Adhesion (of anhydride-endcapped polyether-polyketone-polyimide, to titanium alloy, tensile strength in relation to, mol. weight effects in)

IT Polymerization (of benzophenonetetracarboxylic dianhydride, with bis(aminophenoxybenzoyl)benzene, in preparation of controlled mol.-weight end-capped polyether-polyketone-polyimide)

IT Molding of plastics and rubbers (compression, of anhydride-endcapped polyether-polyketone-polyimide, mol. weight effect on)

IT Carbon fibers, properties (PRP (Properties))

(graphite, anhydride-endcapped polyether-polyketone-polyimide laminates, mech. and adhesive properties of, mol. weight effects in)

IT Amidation (imidation, of anhydride-endcapped

- benzophenone tetracarboxylic dianhydride-bis(aminophenoxybenzoyl)benzene copolymers, mol. weight effects in)
- IT RI: SPN (Synthetic preparation); PREP (Preparation) characterization of neat and carbon-fiber laminates of, mol. weight effects in)
- IT Polymides, synthetic preparation; PREP (Preparation) (polyether-polyketone-, aromatic, anhydride-endcapped, preparation and characterization of neat and carbon-fiber laminates of, mol. weight effects in)
- IT Polyesters, preparation; PREP (Preparation) (polyimide-polyketone-, aromatic, anhydride-endcapped, preparation and characterization of neat and carbon-fiber laminates of, mol. weight effects in)
- IT Crosslinking (thermal, of anhydride-endcapped polyether-polyketone-polyimide-graphite fiber laminates, mol. weight effects in)
- IT 12743-70-3, Ti, 6Al-4V;
- RI: USES (Uses) (adhesion to, of anhydride-endcapped polyether-polyketone-polyimide, tensile strength in relation to)
- IT 7440-44-0, 7702-42-5;
- RI: USES (Uses) (carbon fibers, graphite, anhydride-endcapped polyether-polyketone-polyimide laminates, mech. and adhesive properties of, mol. weight effects in)
- IT 103320-42-9P, 107194-52-5P, 126368-03-4P
- RI: SPN (Synthetic preparation); PREP (Preparation) (preparation and characterization of neat and carbon-fiber laminates of, mol. weight effects in)
- IT 1152 ANSWER 35 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 1991:493360 HCAPLUS Full-text DOCUMENT NUMBER: 115:33360 TITLE: Wide-line deuterium nuclear magnetic resonance studies of N-deuterated nylon 6, nylon 11 and N-n-propyl stearamide AUTHOR(S): Colletti, Ronald F.; Jeno, Mathias; Mathias, Lon J. CORPORATE SOURCE: Dep. Polym. Sci., Univ. South. Mississippi, Hattiesburg, MS, 39406-0076, USA SOURCE: CODEN: POCOEF; ISSN: 0263-6476 DOCUMENT TYPE: Journal LANGUAGE: English AB Mol. dynamics of the Brøll transition, a reversible solid-solid crystal transition, in D-labeled nylon 6 (I), nylon 11 (II), and model compound, N-n-Pr stearamide (III), was studied via solid-state D-NMR. Selective deuteration on the N was accomplished using acylation with trifluoroacetic anhydride followed by precipitation and deacylation in D₂O. Deutrium spectra of the crystalline component of II indicated that there was no significant increase in motion of the N-H bond occurring during the crystal-crystal transition. I and III data also did not show significant motional transitions or changes with increasing temperature, and maintain rigid H-bonded lattices up to their m.p.s.
- CC 36-3 (Physical Properties of Synthetic High Polymers) Section cross-reference(s): 77
- ST deuterated polyamide crystal transition NMR; nylon Brill

- transition deuterated NMR; propyl stearamide motional transition NMR Chains, chemical (dynamics of, of nylon 6 and nylon 11, crystal transitions in relation to, solid-state deuterated NMR study of)
- IT Polymides, properties RL: PRP (Properties) (11, crystal transition in, mol. dynamics of, solid-state deuterated NMR study of)
- IT 25035-04-5D, Nylon 11, trifluoroacetated, N-deuterated Nylon 6, trifluoroacetated, N-deuterated 25587-80-8D, trifluoroacetated, N-deuterated
- RL: PRP (Properties) (crystal transition in, mol. dynamics of, solid-state deuterated NMR study of)
- IT 1152 ANSWER 36 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 1991:491635 HCAPLUS Full-text DOCUMENT NUMBER: 115:31635 TITLE: Polyamide block copolymers INVENTOR(S): Ootsuki, Toshihiko; Tadaki, Toshihiro; Niwa, Kazuaki PATENT ASSIGNEE(S): Japan Synthetic Rubber Co., Ltd., Japan SOURCE: Jpn. Kokai Tokyo Koho, 11 PP.
- DOCUMENT TYPE: Patent LANGUAGE: Japanese FAMILY ACC. NUM. COUNT: 1
- PATENT INFORMATION:
- | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|---|----------|-----------------|--------------|
| JP 03086717 | A | 19910411 | JP 1989-223165 | 19890831 <-> |
| AB | Thermally stable soft transparent polymers contain blocks of saturated hydrocarbons and polyamides having glass transition temp. 70-250° and crystallinity 515% as determined by a wide-angle x-ray anal. Thus, isophthalic acid 38.2, adipic acid 33.6, hydrogenated carboxy-terminated polybutadiene 21.6, and LiCl 0.2 g in 1000 ml. 1,3-dimethylhexyleneurea was stirred at 200°, mixed with 125.1 g MDI, stirred an addnl. 2 h at 200°, mixed with 1.2 g benzoic acid for 1 h at 200°, followed by 1.7 g 1-naphthyl isocyanate, precipitated in methanol, and molded to prepare test pieces having 157°, and a noncryst. polyamide segments. | | | |
- IC 10M C05G018-34.
- IC C08G059-02 CC 39-3 (Synthetic Elastomers and Natural Rubber)
- IT 91-97-40P, 3,31-Dimethylbiphenyl 4,4'-diisocyanate, block polymers with adipic acid and carboxy-terminated polyisobutylene and isophthalic acid 110-15-6DP, Butanedioic acid, esters with hydrogenated hydroxy-terminated polybutadiene, block polymers with carboxylic acids and toluene diisocyanate 121-91-5DP, 1,3-Benzene dicarboxylic acid, block polymers with adipic acid and diphenylmethane diisocyanate and hydrogenated carboxy-terminated polybutadiene 123-99-9DP, Ajellic acid, block polymers with diphenylmethane diisocyanate and isophthalic acid and hydrogenated carboxy-terminated acrylonitrile-butadiene copolymers 124-04-9DP, Hexanedioic acid, block polymers with diphenylmethane diisocyanate and hydrogenated carboxy-terminated polybutadiene and isophthalic acid 584-84-9DP, block polymers with carboxylic acid and hydrogenated carboxy-terminated polybutadiene 900-17-2DP, Polybutadiene, carboxy-terminated, hydrogenated, block polymers with adipic acid and diphenylmethane diisocyanate and isophthalic acid

9003-18-3DP, Acrylonitrile-butadiene copolymer, carboxy-terminated, diisocyanate, block polymers with carboxylic acids and diphenylmethane isophthalic acid, 9003-27-4DP, Polyisobutylene, carboxy-terminated, block polymers with adipic acid and dimethylbiphenyl diisocyanate and hydroxy-terminated, hydrogenated, esters with succinic anhydride block polymers with carboxylic acids and diphenylmethane diisocyanate (manufacture of, heat-stable)

RL: PRP (Preparation)

LI152 ANSWER 37 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:009499 HCAPLUS Full-text
DOCUMENT NUMBER: 115:9499
TITLE:
N-(4-carboxyphenyl) trimellitimide derived from LC-polyimides. 5. Poly(ester imide)s derived from N-(4-carboxyphenyl) trimellitimide and α,ω-dihydroxalkanes

AUTHOR(S): Kricheldorf, Hans R.; Schwarz, Gert; De Abajo, Javier;
CORPORATE SOURCE: Univ. Inst. Tech. Macromol. Chem., Hamburg, D-2000,
SOURCE: Polymer (1991), 32(5), 942-9
OPEN: POLMAG; ISSN: 0032-3861
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N-(4-Carboxyphenyl) trimellitimide was prepared from trimellitic anhydride and 4-aminobenzoic acid and esterified with MeOH. Transesterification with α,ω-dihydroxalkanes in the melt yielded a series of poly(ester imides) with varying spacer lengths. These poly(ester imides) were characterized by elemental analyses, inherent viscosities, DSC measurements, wide-angle X-ray spectroscopy powder and fiber patterns, including synchrotron radiation measurements at variable temperature, optical microscopy with polarized light, and TGA. Poly(ester imides) with even-numbered spacers could form 3 different kinds of solid phase, including a smectic glass and a crystalline smectic phase. Fiber patterns of melt-spun fibers indicated a high degree of order for a series of subsequent layers even when any order inside the layers was lacking. Poly(ester imides) with odd-numbered spacers crystallized much more slowly and could be quenched from the isotropic melt, so that isotropic glasses could be obtained.

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 36, 75
IT Glass temperature and transition
(of trimellitic anhydride-based liquid-crystalline polyester-polyimides).
IT Liquid crystals
(trimellitic anhydride-based polyester-polyimides, preparation and phase transitions of)

IT Polymides, preparation
RU: SPN (Synthetic preparation); PRP (Preparation)
(polyester-, liquid-crystalline, preparation and phase transitions of)

IT Polyesters, preparation
RU: SPN (Synthetic preparation); PRP (Preparation)
(polyimide-, liquid-crystalline, preparation and phase transitions of)

IT 7702-03-6, N-(4-Carboxyphenyl) trimellitimide
(Me esterification of)
RU: RCT (Reactant); RAC (Reagent)

IT 134197-26-5P 134197-28-7P 134197-29-8P 134197-30-1P
134197-31-2P 134197-32-3P 134197-33-4P

RU: SPN (Synthetic preparation); PRP (Preparation)
(liquid-crystalline, preparation and phase transitions of)

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 36, 75
IT Glass temperature and transition
(of trimellitic anhydride-vinyl ester copolymers, tricresyl phosphate plasticizer effect on)

IT Chains, chemical
(structure of, of maleic anhydride-vinyl ester copolymers, tricresyl phosphate plasticizer effect on)

IT Plasticizers
(tricresyl phosphate, for maleic anhydride-vinyl ester copolymers, copolymers, lattice spacing in relation to)

IT 1330-78-5, Tricresyl phosphate
RU: MOA (Modifier or additive use); USES (Uses)
(plasticizers, for maleic anhydride-vinyl ester copolymers, lattice spacing in relation to)

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-references(s): 36, 75
IT Glass temperature and transition
(of trimellitic anhydride-based liquid-crystalline polyester-polyimides).
IT Liquid crystals
(trimellitic anhydride-based polyesters, preparation and phase transitions of)

IT Polymides, preparation
RU: SPN (Synthetic preparation); PRP (Preparation)
(polyester-, liquid-crystalline, preparation and phase transitions of)

IT Polyesters, preparation
RU: SPN (Synthetic preparation); PRP (Preparation)
(polyimide-, liquid-crystalline, preparation and phase transitions of)

IT 7702-03-6, N-(4-Carboxyphenyl) trimellitimide
(Me esterification of)
RU: RCT (Reactant); RAC (Reagent)

IT 134197-26-5P 134197-28-7P 134197-29-8P 134197-30-1P
134197-31-2P 134197-32-3P 134197-33-4P

RU: SPN (Synthetic preparation); PRP (Preparation)
(liquid-crystalline, preparation and phase transitions of)

IT 53038-19-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RAC (Reagent)
(preparation and polymerization of, with diols)

LI152 ANSWER 38 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:1165273 HCAPLUS Full-text
DOCUMENT NUMBER: 114:1165273
TITLE:
Layered structure in copolymers of maleic anhydride and alkyl vinyl esters
Oshina, Toru; Ichikawa, Kenichi; Tasaka, Shigeru;
Inagaki, Norihiko
CORPORATE SOURCE: Fac. Eng., Shizuoka Univ., Hamamatsu, 432, Japan
SOURCE: Kobunshi Ronbunshu (1991), 48(2), 105-10
CODEN: KBRAJ3; ISSN: 0386-2186
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB The structure and thermal properties of copolymers of maleic anhydride and vinyl esters were investigated by X-ray diffraction and DSC. In spite of the perfect alternating sequence of the comonomers, the copolymers were glassy polymers because of the atacticity of vinyl esters in the polymer sequence. The glass transition temps. of these polymers were all approx. 130°. X-ray diffraction patterns suggested that a layered structure having the title side chains was formed by aggregation between polar groups. On doping with tricresyl phosphate as a plasticizer, the spacing between the layers increased steeply in polymers with long side chains. This phenomenon suggested that the long alkyl ester copolymers can be intercalated with the plasticizers.

CC 36-2 (Physical Properties of Synthetic High Polymers)
ST maleic anhydride copolymer layered structure; vinyl ester copolymer layered structure; glass temp
IT Glass temperature and transition
(of maleic anhydride-vinyl ester copolymers)
IT Crystal structure
(of maleic anhydride-vinyl ester copolymers, tricresyl phosphate plasticizer effect on)
IT Chains, chemical
(structure of, of maleic anhydride-vinyl ester copolymers, tricresyl phosphate plasticizer effect on)
IT Plasticizers
(tricresyl phosphate, for maleic anhydride-vinyl ester copolymers, copolymers, lattice spacing in relation to)

LI152 ANSWER 39 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:407202 HCAPLUS Full-text
DOCUMENT NUMBER: 113:77202
TITLE:
Morphological characterization of bioerodible polymers. I. Crystallinity of polyanhydrides
copolymers
AUTHOR(S): Matlakowitz, Edith; Ron, Eyal; Matlakowitz, George;
Amato, Carmela; Langer, Robert
CORPORATE SOURCE: Dep. Chem. Eng., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SOURCE: Macromolecules (1990), 23(13), 3212-18
CODEN: MAMOBX; ISSN: 0024-9237
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Since crystallinity is an important factor in controlling polymer erosion rates, an in-depth anal. of the effect of polymer composition on crystallinity was undertaken using **polyanhydride** homopolymers and copolymers made from sebacic acid (I), bis (carboxyphenoxy)propane (II), bis (carboxyphenoxy)hexane (III), and fumaric acid (IV). Homopolymers from I, II, and IV were crystalline and each displayed a typical powdered fraction pattern. In copolymers, diffraction patterns were determined, in most cases, by the monomer of highest concentration. Copolymers with high ratios of I or II had a high crystallinity while copolymers with almost equal ratios of I and II or I and III were amorphous. I-IV copolymers displayed high crystallinity values regardless of monomer concns.

CC 36-5 (Physical Properties of Synthetic High Polymers)

ST Section cross-reference(s): 63

polyanhydride crystallinity erosion rate; bioerosion

IT Crystallinity

(*for polyanhydrides*, bioerosion rate in relation to)

IT **Glass temperature and transition**

Heat of fusion and Heat of freezing

(*of polyanhydrides*, crystallinity in relation to)

IT Chains, chemical

(sequence length distribution of, in **polyanhydrides**, crystallinity in relation to)

IT Crystallites

(size of, of **polyanhydrides**)

IT **Anhydrides**

RL PRP (Properties)

(poly-, **crystallinity of**, bioerosion rate in relation to)

L152 ANSWER 40 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1389-155164 HCAPLUS Full-text

DOCUMENT NUMBER: 110155164

TITLE: Variable **temperature** solid state nuclear magnetic resonance of side-chain crystalline copolymers

AUTHOR(S): Mathias, Lon J.

CORPORATE SOURCE: Dep. of Polym. Sci., Univ. South. Mississippi, Hattiesburg, MS, 39406-0076, USA

SOURCE: Polymer Communications (1988), 29(12), 352-4

DOCUMENT TYPE: CODEN: POCOEF; ISSN: 0263-6476

LANGUAGE: English

Several comb polymers containing C16-18 side-chains were examined by variable-**temperature** 13C CP/MAS NMR. Polymers with backbone glass transition temps. (T_g) below room **temperature** displayed high degrees of side-chain **crystallinity** as evidenced by internal CH2 group chemical shifts of .apprx. 33.2 ppm, comparable to the value displayed by all-trans CH2 segments in the **crystalline** domains of polyethylene. Above the side-chain m.p.s., this peak shifts to apprx. 30.7 where the peak of molten polyethylenes is found. On cooling, the side-chains of these polymers rapidly **recrystallize**. The alternating copolymer of maleic **anhydride** and 1-octadecene is not capable of side-chain **crystallinity** even at -40° because of greater distance between pendant groups and a backbone Tg greater than room **temperature**. The octadecanamide derivative of poly(dihydroaniline Me ester) possesses a backbone Tg above room **temperature** and shows good side-chain **crystallinity** in precipitated materials. Once melted and cooled, however, **recrystallization** is greatly restricted by the backbone rigidity. Solid-state NMR thus provides a sensitive tool for studying the side-chain **crystallinity** in relationship to backbone Tg and thermal history.

CC 36-5 (Physical Properties of Synthetic High Polymers)

ST NMR comb Polymer **temp** effect; side chain **crystallinity**

IT comb polymer	
IT Polymers, properties	
RL PRP (Properties)	(comb, solid-state NMR spectra of side chains on, temperature effect on)
IT Crystallinity	(of side chains, of comb polymers, temperature effect on, solid-state NMR in relation to)
IT Nuclear magnetic resonance (variable-temperature), of side chain-crystalline comb polymers)	
IT Siloxanes and Silicones, properties	
RL PRP (Properties)	(Me stearyl, NMR spectra of, in solid state, temperature effect on, side chain crystallinity in relation to)
IT Chains, chemical	(side, crystallinity of , in comb polymers, temperature effect on, solid-state NMR spectra in relation to)
IT 111306-63-9	106158-81-0
RL PRP (Properties)	(Poly(octadecyl methacrylate))
IT (NMR spectra of, in solid state, temperature effect on, side chain crystallinity in relation to)	
L152 ANSWER 41 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN	
ACCESSION NUMBER: 1989-8941 HCAPLUS Full-text	
DOCUMENT NUMBER: 11015941	
TITLE: Thermal, dynamic mechanical, and rheological behavior of linear low-density polyethylene/Poly(octadecene-co-maleic anhydride) blends	
AUTHOR(S): O'Connor, K. M.; Orler, B. B.	
CORPORATE SOURCE: Corp. Res. Div., S. C. Johnson and Son, Inc., Racine, WI, 53403, USA	
SOURCE: Polymer Engineering and Science (1998), 28 (17), 1132-41	
DOCUMENT TYPE: CODEN: PYESAZ; ISSN: 0032-3888	
LANGUAGE: English	
AB Immiscible blends of Dowlex 2400 linear LDPE and a 50:50 maleic anhydride -octadecene copolymer (I) were characterized by calorimetry, dynamic mech. testing, and rheometry. The presence of I in the linear LDPE melt increased the nucleation rate for linear LDPE crystallization. Side-chain crystallization in a portion of I component equivalent to approx. 15% of the total blend was apparently suppressed in the blends. Although the mech. loss of the blends was a sum of the pure components, the β relaxation of the linear LDPE was absent in blends contg >20% I. The steady and dynamic shear rheol. was dominated by the immiscibility and mismatch in viscosity (η) between the two polymers. A linear dependence on blend composition was found for $\log \eta$ in dynamic tests. Nonlinear behavior with pos. and neg. deviations was found for $\log \eta$ in steady shear tests.	
CC 36-5 (Physical Properties of Synthetic High Polymers)	
ST linear LDPE blend property; maleic anhydride octadecene copolymer blend; crystal linear LDPE blend	
IT Glass temperature and transition	
IT Crystallization	
IT Heat of fusion and Heat of freezing	
IT Mechanical loss (of maleic anhydride -octadecene copolymer linear LDPE blends)	
IT Polymer morphology	

- (spherulitic, of maleic **anhydride**-octadecene copolymer-linear
LDPE blends)
- IT Alkenes, Polymers
RL: PRP (Properties)
(α -, polymers with ethylenes, linear low-d., maleic
anhydride-octadecene copolymer blends, thermal, dynamic mech.
and rheol. properties of)
- IT 74-85-1D, Ethylene, polymers with α -olefins
RL: PRP (Properties)
(linear low-d., maleic **anhydride**-octadecene copolymer blends,
thermal, dynamic mech. and rheol. properties of)
- IT 117925-22-1
RL: PRP (Properties)
(maleic **anhydride**-octadecene copolymer blends, thermal,
dynamic mech. and rheol. properties of)
- L152 ANSWER 42 OF 55 HCAPLUS COPYRIGHT 2007 ACS ON STN
ACCESSION NUMBER: 1988-438328 HCAPLUS Full-text
DOCUMENT NUMBER: 105-38328
TITLE: New polymer syntheses. 24. Liquid crystal poly(ester
imides) derived from benzophenonetetracarboxylic
dianhydride and ω -amino acids
- AUTHOR(S): Kricheldorf, Hans R.; Pakull, Ralf; Buchner, Stefan
CORPORATE SOURCE: Inst. Tech. Makromol. Chem., Univ. Hamburg, Hamburg,
D-2000/13, Fed. Rep. Ger.
- SOURCE: Macromolecules (1988), 21(7), 1929-35
COHEN; MAMOKH; ISSN: 0024-9297
DOCUMENT TYPE: Journal
- LANGUAGE: English
AB W-amino acids were treated with 3,3',4,4'-benzophenonetetracarboxylic
dianhydride to give diacid imides which were polymerized with diaacetates of
hydroquinone, 2,6-naphthalenediol, or 4,4'-dihydroxybiphenyl (I) to give
polyester polyimides. Almost all polymers containing I formed a smectic melt.
An odd effect was found for the heat-distortion temperature of the
liquid-crystalline polymers.
- CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 75
IT Liquid **crystals**
(benzophenone tetracarboxylic **anhydride**-based
polyester-polyimide, preparation and properties of)
- IT Glass temperature and transition
Polymer morphology
(of liquid-crystalline benzophenonetetracarboxylic
anhydride-based polyester-polyimides)
- IT Polyketones (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(polyester-polyketone-, benzophenonetetracarboxylic **dianhydride**-based,
liquid-crystalline, preparation and properties of)
- IT Polymides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(polyketone-polyimide-, benzophenonetetracarboxylic **dianhydride**-based,
liquid-crystalline, preparation and properties of)

(α -, polymers with ethylenes, linear low-d., maleic
anhydride-octadecene copolymer blends, thermal, dynamic mech.
and rheol. properties of)

IT 71685-31-9P 104677-73-SP 114505-30-5P 114505-31-6P 114505-32-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent); PREP

(Liquid-crystalline, preparation and properties of)

IT 114505-39-4P 114505-40-7P 114505-41-8P 114505-42-9P 114505-44-1P

IT 114505-45-2P 114505-46-3P 114505-47-4P 114505-48-5P 114505-49-6P

IT 114505-50-9P 114505-56-5P 114505-60-1P 114505-61-2P 114505-62-3P

IT 114505-53-8P 114505-56-7P 114505-57-8P 114505-58-9P 114505-59-0P

IT 114505-70-2P 114505-71-4P 114505-72-5P 114505-78-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

IT 114505-39-4P 114505-33-8P 114505-34-9P 114505-35-0P 114505-36-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(Preparation and properties of)

IT 114505-37-2P 114505-38-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(Preparation of, as model for polyester-polyimides)

- L152 ANSWER 43 OF 55 HCAPLUS COPYRIGHT 2007 ACS ON STN
ACCESSION NUMBER: 1987-405949 HCAPLUS Full-text
DOCUMENT NUMBER: 107-8949
TITLE: Synthesis of crosslinkable liquid-crystalline
oligoester diols by direct esterification; use in
coatings binders
- AUTHOR(S): Wang, Daozhang; Jones, Frank N.
CORPORATE SOURCE: Dep. Polym. Coat., North Dakota State Univ., Fargo,
ND, 58105, USA
DOCUMENT NUMBER: 1987-8949
SOURCE: Polymeric Materials Science and Engineering (1987), 56, 645-9
Coden: PMSEDG; ISSN: 0743-0515
DOCUMENT TYPE: Journal
LANGUAGE: English
- AB A linear oligoester diol was prepared by heating a mixture of phthalic
anhydride, adipic acid, and neopentyl glycol in a 1:1:3 mol ratio under N at
230° with removal of water until the acid number was <10 mg KOH/g. The diol
was modified with p-hydroxybenzoic acid to give crosslinkable liquid-
crystalline polyol. Baked enamels made by crosslinking these liquid-
crystalline polyols with a melamine resin retained the liquid-crystalline
character of the polyols. These enamels were both harder and much tougher
than enamels made by crosslinking amorphous polyols derived from m-
hydroxybenzoic acid.
- CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 75
- ST 11q crystal polyol; melanine coating; phthalic **anhydride** liq
crystal polyol; adipic acid liq crystal polyol; neopentyl glycol
liq crystal polyol; hydroxylbenzoic acid liq crystal polyol
liq liquid crystals
- IT (adipic acid-hydroxybenzoic acid-neopentyl glycol-phthalic
anhydride copolymer, crosslinkable, preparation of, as coating
binders)
- IT Glass temperature and transition
(of hydroxybenzoic acid-containing crosslinkable, liquid-crystalline
polyols)
- IT 38702-19-1P, Adipic acid-neopentyl glycol-phthalic **anhydride**

copolymer

RI: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(preparation and characterization of)

IT RI: SPN (Synthetic preparation); PREP (Preparation)

(preparation of crosslinkable liquid-crystalline, as coating binders)

L152 ANSWER 44 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986-57364 HCAPIUS Full-text

DOCUMENT NUMBER: 105:173464

TITLE: Properties of blends containing poly(α -olefin-o-maleic anhydride). I. Evidence for cocrystallization in blends of eicosane and poly(1-octadecene-co-maleic anhydride)

AUTHOR(S): Rahn, Peter B.

CORPORATE SOURCE: Louis Lab., S. C. Johnson and Son, Inc., Racine, WI, 53403, USA

SOURCE: Journal of Macromolecular Science, Physics (1987), B26(1), 19-36

CODEN: JMAPBR; ISSN: 0022-2348

Journal

DOCUMENT TYPE:

AB: The cocrystn. of eicosane (I) [112-95-8] with the aliphatic side chains of maleic anhydride-1-octadecene copolymer (III) [25266-02-8] in I-II blends resulted in increases in the m.p. and heat of fusion of the side chains with increasing I content in the melt-blended samples. The m.p. of I decreased at high II concns. in blends prepared by both solution and melt techniques. The Tg of II decreased upon the addition of I which indicated partial miscibility between I and II. The triclinic unit cell structure of I was not perturbed by the addition of II.

36-5 (Physical Properties of Synthetic High Polymers) crystal eicosane octadecene copolymer blend; maleic anhydride copolymer; heat fusion maleic anhydride copolymer (co-, in maleic anhydride-octadecene copolymer, eicosane concentration (of maleic anhydride-octadecene copolymer, eicosane effect effect on))

IT Heat of fusion and Heat of freezing (of of maleic anhydride-octadecene copolymer, eicosane effect on)

IT Crystallites (size of, of eicosane in maleic anhydride-octadecene copolymer blends)

IT Crystallization (co-, in maleic anhydride-octadecene copolymer-eicosane blends)

IT Chains, chemical (size, of maleic anhydride-octadecene copolymer, cocrystn. or, in eicosane blends)

IT 112-95-8

RI: PRP (Properties)

(maleic anhydride-octadecene copolymer blends, cocrystn. in)

L152 ANSWER 45 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986-57365 HCAPIUS Full-text

DOCUMENT NUMBER: 105:115695

TITLE: Modeling the influence of main-chain mobility on the melting behavior of side-chain crystals

AUTHOR(S): Rim, P. B.

copolymers

RI: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(preparation and characterization of)

IT RI: SPN (Synthetic preparation); PREP (Preparation)

(preparation of crosslinkable liquid-crystalline, as coating binders)

L152 ANSWER 44 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986-57364 HCAPIUS Full-text

DOCUMENT NUMBER: 105:173464

TITLE: A model was developed that predicted a decrease in mobility of the C atoms adjacent to the main chain as the M (Tg) increased and explained the trend in side-chain Tm. M.P. **T_m**, calculated from this model were in excellent agreement with those determined exptl.

36-5 (Physical Properties of Synthetic High Polymers)

AB: DSC was used to determine the influence of mol. weight (M) on the glass transition temperature (Tg) and the side-chain m.p. (Tm) of maleic anhydride-1-octadecene copolymer [25266-02-8]. The Tg obeys the Fox-Flory relation as follows: Tg = 386 K - 1.6 + 105/M. The Tm decreased with increasing copolymer M.

A model was developed that predicted a decrease in mobility of the C atoms adjacent to the main chain as the M (Tg) increased and explained the trend in side-chain Tm. M.P. **T_m**, calculated from this model were in excellent

agreement with those determined exptl.

36-5 (Physical Properties of Synthetic High Polymers)

AB: mobility polymer chain glass **T_m**; octadecene maleic anhydride copolymer DSC; melting polymer chain mcsaling DSC

IT: Chains, chemical (mobility of, of maleic anhydride-octadecene copolymers, melting behavior in relation to)

IT: Crystallization (of maleic anhydride-octadecene copolymers, melting behavior of side chains in relation to)

IT: Glass temperature and transition (of maleic anhydride-octadecene copolymers, mol. weight effect on, equation for)

L152 ANSWER 46 OF 55 HCAPIUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986-187195 HCAPIUS Full-text

DOCUMENT NUMBER: 104:187195

TITLE: Brief on organic additives in the free volume and crystallization kinetics of high-pressure polyethylene

AUTHOR(S): Abbasov, A. F.; Kakhramanov, N. T.; Kerimov, F. Sh.

CORPORATE SOURCE: USP: Plasticheskie Massy (1986), (2), 40-1

SOURCE: PLMSAI; ISSN: 0554-2901

Journal

DOCUMENT TYPE: Russian

AB: Addition of 0.05% phthalimide [65-41-6], phthalic anhydride (I) [85-44-9], di-Et terephthalate [636-09-9], and o-phenylenediamine [95-54-5] to high-pressure polyethylene (II) [900-88-4] resulted in a decrease of the temperature interval of melting and in a decrease of sp. volume at a given temperature. These results indicate formation of hetero- and homogeneous crystallization centers in II in the presence of the above additives. The free volume of II decreased also on addition of the above additive, especially I, apparently due to inhibition of spherulite growth in II. The glass transition temperature of additive-containing II was in the range from -80° to -93°, compared with -50° for pure II. The rate of isothermal crystallization of II increased on addition of additives and the crystallization kinetics could be described by the Avrami equation.

36-3 (Physical Properties of Synthetic High Polymers)

AB: polyethylene org additive crystal kinetics; vol free polyethylene org additive; phthalimide polyethylene crystal kinetics; phthalic anhydride polyethylene crystal kinetics; terephthalate diethyl polyethylene kinetics; glass **T_m** polyethylene org additive; morphol polyethylene org additive

IT: Glass temperature and transition Polymer morphology

IT 85-41-6 85-44-9 (of polyethylene, effect of organic additives on properties)

RL: PRP (Properties) (polyethylene containing, crystallization kinetics and free volume of)

L1152 ANSWER 47 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:488438 HCAPLUS Full-text

DOCUMENT NUMBER: 103-88438

A DSC and DMA study of polymers with crystallizable side chains: poly(α -olefin-co-maleic anhydride)

AUTHOR(S): Rini, Peter B., Louis Lab., S. C. Johnson and Son, Inc., Racine, WI, Journal of Macromolecular Science, Physics (1985), B23(4-6), 549-73

CODEN: JMAPBR; ISSN: 0022-2348

DOCUMENT TYPE: Journal

LANGUAGE: English

AB DSC and dynamic mech. anal. (DRA) of atactic, alternating α -olefin-maleic anhydride polymers showed the dependence of glass transition temperature (T_g) and side-chain melt temperature (T_m) on the length of olefin side chains. Copolymers of olefins with C number 18, 20 and 22 had broad Tm endotherms in their DSC thermograms due to side-chain crystallinity. Those of octene and decene showed no side-chain crystallinity. Tm decreased and heats of fusion increased with increasing side chain length. Crystallinity was 10-30% depending on the side-chain length. DSC thermograms showed heat capacity change to increase with decreasing olefin chain length. Tg for copolymers of C20 and C22 olefins were not detected by DSC due to the proximity of Tg and Tm. Damping maximum in DMA were related to Tg. Tg increased dramatically with mol. weight for decene copolymers.

CC 36-5 (Physical Properties of Synthetic High Polymers), maleic anhydride copolymer property; dynamic mech analysis copolymer; glass transition olefin copolymer; melt temp. olefin copolymer; crystal olefin copolymer; olefin copolymer property

IT Glass temperature and transition

Heat capacity
Heat of fusion and Heat of freezing

(of maleic anhydride-olefin copolymers, side chain crystallization effect on)

IT Crystallization

(of maleic anhydride-olefin polymers, mech. and thermal properties in relation to)
Alkenes, Polymers

IT RL: PRP (Properties) (polymers with maleic anhydride, side-chain crystallization effect on properties of)

IT Chains, chemical (side, crystallization of, of maleic anhydride-olefin polymers, mech. and thermal properties in relation to)

L1152 ANSWER 48 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1978:459962 HCAPLUS Full-text

DOCUMENT NUMBER: 89-59962

TITLE: Electrical conductivity of plastic crystals: di-Camphoric anhydride, di-2,3-camphanedione and di-camphor oxime

AUTHOR(S): Skwiatkiewicz, J.; Pigoń, K., Dep. Org. Phys. Chem., Tech. Univ. Wrocław, Wrocław, Pol.

CORPORATE SOURCE:

AB The title compacts, useful in the preparation of sensitive stable photographic

films, fibers, and elec.-insulating coatings, were prepared by

SOURCE: Acta Physica Polonica, A (1978), A53(2), 165-75

OPEN: ATPLB6; ISSN: 0587-4246

Journal

LANGUAGE: English

AB The elec. conductivity jumps in d,L-camphoric anhydride, d,L-camphanedione, and d,L-camphor oxime single crystals or polycryst. samples in the brittle to plastic phase transition range are related to the calorimetrically observed phase transition at 408.5, 320, and 385.5 K, resp. The elec. conductivity of polycryst. samples depends on recrys. occurring at high temps. (near the phase transitions). The conductivity in these systems involves an ionic mechanism.

CC Section cross-references(s): 76, 22 colorimetry camphanedione cryst; elec cond camphanedione cryst; camphor oxide elec cond; camphoric anhydride elec cond; ionic mechanism

CC 30-10 (Terpenoids)

CC Section cross-references(s): 76, 22

calorimetry camphanedione cryst; elec cond camphanedione cryst; camphor

oxide elec cond; camphoric anhydride elec cond; ionic mechanism

IT Phase transition

IT (In camphor derivs., elec. conductivity in relation to) Enthalpy and Enthalpy function (of transition, of camphor derivs., elec. conductivity in relation to)

IT Free energy transition, of camphor derivs., elec. conductivity in relation to) (of phase transition, of camphor derivs., elec. conductivity in relation to)

IT Electric conductivity and conduction (of plastic crystals) of camphoric anhydride, camphane, or camphor oxime, ionic mechanism of

IT 76-32-4 10373-78-1 13559-66-5 RU: RCT (Reactant); RACT (Reactant or reagent)

(elec. conductivity of crystalline, phase transition and crystal phases in relation to)

L112 ANSWER 49 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1969:107005 HCAPLUS Full-text

DOCUMENT NUMBER: 70:107005

TITLE: Polyester preparation from 9,10-substituted anthracenes

INVENTOR(S): Klaenderman, Bruce H.; Faber, Jan W. H.

PATENT ASSIGNEE(S): Eastman Kodak Co.

SOURCE: Fr., 9 pp.

CODEN: FRXXAK

PATENT: French

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----

KIND -----

DATE 19680412

APPLICATION NO. FR 1967-96708

DATE 19670728 <--

FR 1520625 GB 1184092

GB 1184092 US 2457235

US 2457235 19690722

19690722 US 4

US 3577366 19710504

US 3577366 19720718

19720718 US

US 3720701 19730313

19730313 US

19660228

19660228 19670721

19670721 <--

Polycondensation of terephthalic acid or di-Me terephthalate (I) with ethylene glycol (II) in the presence of an anthracene derivative. Thus, a mixture of I 17.64, II 0.6, and 9,10-bis(carbethoxy)tripycene (III) 3.92 g. was heated for 3 hrs. at 250° under N₂ in the presence of 1 drop of triisopropyl titanate, and stirred for 1 hr. to give a very-viscous polyester, III, m. 237-8°, was prepared by adding 65 ml. isopentyl nitrite to 115 g. 9,10-bis(acetylomethyl)anthracene in 3 l. CH₂Cl₂ during 4 hrs., and 58 g. anthranilic acid in 600 ml. MeCO during 5 hrs., refluxing the mixture for 7 hrs., leaving overnight, washing with 12% aqueous KOH, evaporating to dryness, treating the **crystalline precipitate** with 500 ml. xylene and 50 g. malic anhydride, refluxing the mixture for 10 min., cooling, diluting with CH₂Cl₂, washing with 12% aqueous KOH, and concentrating to give 72% 9,10-bis(acetylomethyl)tripycene, m. 281-3°, which, in hydrolysis with KOH, gave IV in 1 l. MeCO, a solution of 19 g. Cr2O₃ in 20 ml. concentrated H₂SO₄ and 175 ml. H₂O was added, the mixture refluxed 30 min., poured into ice water, 9,10-triphenylenedicarboxylic acid (V), m. >475°, separated, 65.5 g. V refluxed with 800 ml. CHCl₃, 80 ml. SOCl₂ and 5 ml. HCONH₂ added, the mixture refluxed 2 hrs., addnl. 30 ml. SOCl₂ added, the mixture refluxed 1.5 hrs., solvents removed, 250 ml. CH₂Cl₂ and 250 ml. absolute EtOH added, the mixture boiled 15 min., CH₂Cl₂ eliminated, and cooled to give 56% III. Other anthracene derivs. prepared were 9,10-dihydro-9,10-bis(hydroxymethyl)-9,10-ethananthracene, m. 204-6°, 9,10-dihydro-9,10-bis(hydroxymethyl)-2,3-bicyclo[2.2.1]-heptane)anthracene (VI), m. 260-1°, 9,10-ethananthracene-11,12-dicarboximide, m. 302-3°. A polyester with a glass-transition temp. of 203° and an inherent viscosity of 0.20 (1:1 PhOH-PhCl) was prepared by the polycondensation of I 100, II 31, and VI 69 moles in the presence of Bu₂SnO₂. The absence of VI lowered the glass-transition temperature to 79°.

IC COBG; COTD; COTD
CC 35 (Synthetic High Polymers)

1152 ANSWER 50 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1957-444305 HCAPLUS Full-text
DOCUMENT NUMBER: 67:44305
PRIORITY APPN.:
PATENT ASSIGNEE (S): Dainine copolymers
SOURCE: Monsanto Co.
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6609895	DE	19670116	NL 1966-9895	19660714 <-
GB 1145012	DE			19650714 <-
US 3453244	US	19690701	US	19650714 <-

PRIORITY APPN. INFO.:
AB - The preparation of copolymers from preformed diamines having built-in alkylene and arylene bonds is described. The copolymers thus prepared have excellent heat resistance, a high glass-transition temperature, a high modulus, and a low elongation and can be worked up to form fibers, films, threads, etc. Thus, a solution of 13.7 g. *m*-aminobenzoic acid and 7.25 g. 80% aqueous hexamethylenediamine (I) was poured into 500 cc. EtOH to give **crystals**, m. 180°; 50 cc. of this solution containing 12 g. **crystals** was decolorized with charcoal and the solution concentrated and freed from H₂O with PhMe, the anhydrous salt heated to 210°, cooled, and the residue refluxed, filtered, and purified by dissolving the product in dilute HCl, filtering, and **reppm.** of

the diamine by addition of a base to give a dried crude product, m. 94-100°. Reacr₂O₃ from EtOH gave a product m. 106-8°. A similar reaction of 83 g. Et P-aminobenzoate and 35 g. I gave 25 g. N,N'-hexamethylenebis(*p*-aminobenzamide), m. 188-90° (alc.-H₂O). The salt of p-aminobenzoic acid and I was heated in a hydrocarbon with a high b.p. at 205° to yield a product m. 190-5°. Reaction of 0.1 mole piperezine and 0.2 mole *m*-aminobenzoic acid in 200 cc. H₂O in 1 l. EtOH at 200° gave 12.7 g. product m. 225-40°. Reaction of 0.025 mole piperezine hydrate and 50 cc. H₂O with 0.025 cc. *m*-nitrobenzoyl chloride in 20 cc. tetrahydrofuran gave N,N'-bipiperazinebis(*m*-nitrobenzamide). Addition of 50 cc. NaOH and drying gave a product m. 242-4° and reduction with NaCl₂ gave a diamine m. 240-2°. Similarly, N,N'-ethylenabis(*m*-nitrobenzamide), m. 224-31°; N,N'-hexamethylenebis(*m*-nitrobenzamide), m. 302-5°. A 2°; and N,N'-2,5-dimethylpiperezinebis(*m*-nitrobenzamide), m. 302-5°. A solution of 0.354 g. N,N'-hexamethylenebis(*m*-aminobenzamide) in 2 cc. AcNMe₂ was cooled to -30°, 0.203 g. isophthaloyl chlorid added, the solution heated after 15 min. to 0° and after another 15 min. to room **temperature**. Films were made which were hardened for 30 min. at 110° and 15 min. at 140°. The films could be used to make fibers. A solution of 0.354 g. N,N'-hexamethylenebis(*p*-aminobenzamide) in 3 cc. AcNMe₂ was cooled to 0°, 0.218 g. pyromalitic acid dihydrate added, the solution warmed to room **temperature** after 4 hrs., and films made that did not melt or decompose when heated to >300°.

IC C08G
CC 35 (Synthetic High Polymers)

1152 ANSWER 51 OF 55 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1964-493241 HCAPLUS Full-text
DOCUMENT NUMBER: 61:93241
ORIGINAL REFERENCE NO.: 61:16277h,16278a-b
TITLE: Polymerization of higher aldehydes. V. End-capped crystalline isotactic polyaldehydes. Characterization and properties
AUTHOR(S): Vogl, O.
CORPORATE SOURCE: E. I. du Pont de Nemours & Co., Inc., Wilmington, DE
SOURCE: Journal of Polymer Science (1964), 2 (Pt. A); 10(1), 4621-31
CODEN: JPSCAU; ISSN: 0022-3832
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Polyaldehydes were acetate end-capped with C₅H₅N Ac2O and were characterized by the determination of solution viscosities, melting points, gel points, and solubilities. Crystalline, isotactic polyaldehydes are insol. in all known solvents at room **temperature**. The gel point is the **temperature** at which the first definite opalescence appeared as the solution was cooled slowly. It paralleled the solubility and the m.p. of the polymer. Raw polyaldehydes have unstable hemiacetal end groups as well as stable ester and probably ether end groups. The end-capped polyaldehydes melt at higher **temperatures** than do the corresponding olefins. Methyl branching in the α -position raises the m.p. Relative number-average mol. wts. were estimated by correlating the infrared deets. of the ester end groups with solution viscosity measurements. Torsion pendulum measurements of polybutyraldehyde showed a **transition** at room **temperature** and a shoulder at about -30°. Stability of the polymers depended on their purity. The detrimental impurities included: initiator residues, monomer residues, and the presence of peroxides. Stability also depended on the length of the side chain. The ceiling **temperature** is below room **temperature** and spontaneous degradation may occur if end-capping of the polymer ends is incomplete.

CC 49 (Rubber and Other Elastomers)
IT 108-24-7, Acetic anhydride
(aldehyde crystalline isotactic polymer end-capping by)

IT 2779-14-6, Butyraldehyde, homopolymer

depressed m.p. are thought to be due to the breaking up the overlap hybridization of p electron orbitals between the aromatic nucleus and the adjacent C:O groups. Hydroquinone (66 g.) is treated with 200 cc. solution containing 96 g. NaOH. After 2 hrs., 80 g. ClCH₂CO₂H (I) in 50 ml. water is added dropwise. The precipitate is filtered off, dissolved in water, acidified and **recrystallized** from AcOH to give 66-72% hydroquinone-O,O'-diacetic acid (II), prisms, m. 251°, λ (EtOH) 5.85, 8.25, and 12.62 μ. p-Xylylene dichloride (180 g.) added to 1400 ml. 40% aqueous alc. cyanide solution gave 80% **a,d'-cicyano-p-xylene** (III), m. 97° (EtOH). III (500 g.) in 1500 ml. 1:3 EtOH-benzene treated with dry HCl for 12 hrs., and allowed to stand for 12 hrs. gave 240 g. p-C₆H₄ [CH₂C(=NH)OEt-HCl]₂ (IV), m. 247-8° (Et-OH). Bisphenol A (23 g.) and 13.2 g. I gave 2,2-bis(4-hydroxyphenyl)propane-O,O'-diacetic acid (V). Aniline (37 g.) 135 ml. water, and 40 ml. HCl were put in an autoclave with 11.6 ml. acetone, heated at 115° for 10 hrs., cooled, made alkaline, extracted with Et₂O and distilled, b3.5 186-90°, and **recrystallized** from benzene gave 4.1 g. 2,2-bis(4-aminophenyl)propane (VI), needles, m. 126.5-27°, λ 2.98 and 6.15 and 12.20 μ. VI (18 g.) and Cu₂(Qn)₂ gave 48% 2,2-bis(4-cyanophenyl)propane (VII), m. 139-40°, pale yellow crystals from MeOH, b2.5 196-206°, λ 4.46 μ. VII (9.0 g.) was hydrolyzed with 200 ml. 75% H₂SO₄ to 94% 2,2-bis(4-carboxyphenyl)propane (VIII), m. 314° (AcOH). II (30 g.) was refluxed with 500 ml. Ac₂O at 150-60° for 5 hrs. The product was decolorized with C, and Ac₂O distilled to give the prepolymer, II diacetate. II diacetate was heated under dry N at 160-210°/20 mm. and 215-20°/3 mm. for 2 hrs. The polymer gradually became viscous and yielded a **polyanhydride**, m. 158°, possessing fiber-forming properties and glass-transition temperature 70°, λ 5.52 and 5.73 and 9.21 μ. The polymer was stable to hydrolysis and showed increased **cryocallinity** after annealing at 100°. Other polymers similarly prepared include: IV polymer, m. 152°, fiber-forming and elastic; intrinsic viscosity 0.19 at 30° (dioxane), glass transition temperature 65°, shows increased **cryocallinity** after annealing at 100°, λ 5.52 and 5.74 μ; V polymer, m. 196-202°, film and fiber-forming, similar infrared features, good stability to hydrolytic and thermal degradation; VIII polymer, m. 236-40°, glass transition temperature 140°, film and fiber-forming, similar infrared spectrum.

CC 10E (Organic Chemistry: Benzene Derivatives)
IT Methylene group
(ether, effect on alkylaromatic **polyanhydrides** polymerization)

IT Fibers, synthetic
(from **anhydrides** polymers)

IT IT Bonds
(ether, effect on alkylaromatic **polyanhydrides** polymerization)

IT IT Polymers
(polymerization and)
(and polymer therefrom)

IT IT Polymers
(anhydrides, with (p-phenylenedioxy)diacetic acid, and
Polymer therefrom)

IT IT Polymers
(configuration or density distribution of, in alkylaromatic **polyanhydrides**, polymerization and)
(polymeric **anhydrides** from)

IT IT Polymers
(3539-42-2, Acetic acid, (isopropylidenebis(p-phenyleneoxy))di-

IT IT Polymers
(crude) 2-cyano-2-carboxyvinyl derivative (VII) of I, m. 158.5-60°.
(decomposition) (from CHCl₃-CCl₄); it gave deep purple solns. in Me₂CO or

Some acylferrrocenes and their reactions

Graham, P. J.; Winday, R. V.; Marshall, G. W.;
Peterson, M. L.; Whitman, G. M.
E. I. du Pont de Nemours & Co., Wilmington, DE
Journal of the American Chemical Society (1957)
1, 79, 3416-20
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DOCUMENT TYPE:

LANGUAGE:

AVAILABILITY:

Finely ground dicyclopentadienyliiron (I) (112 g.) and 107 g. POCl₃ treated at 50° dropwise to room temperature, allowed to stand 2 hrs., poured onto 500 g. ice, and extracted 45 hrs. with Et₂O, the extract worked up, and the residue sublimed at 70° and 1 mm. Yielded 85.4 g. (crude) formylcyclopentadienyliiron (II), reddish brown crystals from 3:1 heptane-CH₂Cl₂ showing a sharp transition temperature at 45° under polarized light, m. 124.5°. A similar run using HCONH₂ at 85° during 3.5 hrs. Yielded only 23% II. II (10 g.) shaken vigorously with 100 g. 40% aqueous NaHSO₃ and 15 cc. EtOH yielded 13.3 g. NaHSO₃-II addition compound (III), yellow solid. II and NH₂OH in aqueous MeOH at 30° gave 77% oxime (IV) of II, m. 133-5°. With crystallization at 98° (from 2:3 C₆H₆-heptane), II and H₂CONHNH₂ in aqueous EtOH 60° yielded 58% semicarbazone of II, m. 203-4° (decomposition) (from 4% EtOH-HCONH₂). II gave by the method of Fox and Gibbs (A.C.A. 48, 8763g) an isonicotinylhydrazone, m. 212-13° (from 2:1 iso-POH-EtOH), in 39% yield. II treated at room temperature with NH₄H₂O in MeOH yielded 47% azine of II, red-brown crystals, m. 245°. (from HCONH₂). II yielded by the method of Julian and Sturgis (C.A. 29, 50874) 70% rhodanine of II, deep blue, m. 245°. (decomposition). II (10.7 g.) in 250 cc. dry Et₂O reduced with LiAlH₄ gave 9.5 g. (crude) (hydroxymethyl)cyclopentadienyliiron. Yellow needles, m. 74-6° (from 60 cc. Skellysolve and 10 cc. CHCl₃). II (10.0 g.) reduced over Raney Ni at 1.5 hrs. at 50° and 135° atmospheric pressure gave 5.35 g. yellow crystals, m. 129-30°. Possibly oxydiamethylenes (dicyclopentadienyliiron). II (21.4 g.) in 100 cc. MeOH heated 3 hrs. at 120° with 25 g. Me₂NH in the presence of Raney Ni at 165 atmospheric H pressure, the mixture filtered through C, diluted with H₂O, and extracted with Et₂O, the extract washed with H₂O, dried, and treated with 20 g. MeI in 50 cc. dry Et₂O, and the yellow precipitate washed with dry Et₂O and dried over P₂O₅ in vacuo yielded 29.1 g. ferrocenylmethyldimethylammonium iodide, m. 218°. (decomposition). IV (20 g.) treated at room temperature with 40 cc. Ac₂O, poured after about 0.5 hr. P₂O₅ pumped several days, and the resulting solid sublimed at 100° and 1 mm. pressure during several days gave 10 g. (crude) cyanocyclopentadienyliiron (cyclopentadienyliiron, m. 103-4° (from 125 cc. heptane). II (from 21.4 g. II in 35 cc. EtOH and 20.8 g. NaHSO₃ in 100 cc. H₂O) treated with 9.8 g. NaCN in 100 cc. H₂O, stirred 2 hrs. at about 50°, cooled in ice, and filtered, the moist product (31 g.) extracted with two 175-cc. portions C₆H₆, and the combined excts. evaporated yielded 17 g. (crude) 1-hydroxy-1-(cyanomethyl)cyclopentadienyliiron (cyclopenta dienyliiron, m. 104° (decomposition) from C₆H₆ containing a trace of EtOH). II (21.4 g.) in 50 cc. dry Pyridine mixed at room temperature with 26 g. NaCH₂CO₂H in 20 cc. Pyridine, heated 2.5 hrs. on the steam bath, cooled, kept 2 days at room temperature, diluted with 500 cc. cold H₂O, cooled in ice, acidified with 150 cc. 5N H₂SO₄, and extracted with CH₂Cl₂, the extract worked up, the residual oil treated with 20 g. Na₂CO₃ in 200 cc. H₂O, the pasty mass diluted with 100 cc. H₂O and filtered, and the alkaline filtrate cooled in ice and acidified yielded 5.3 g.

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ORIGINAL REFERENCE NO.: 51:90680

EtOH. The solid remaining from the Na₂CO₃ extraction dried over P205, washed with 150 cc. CHCl₃, and **recrystallized** from EtOH gave 9.4 g. dark red Na salt of VII; it reacted readily with Cu(OAc)₂ to give red insol. Cu salt. Moist III (from 21.4 g. II) slurried in 150 cc. EtOH and added rapidly with stirring to 28.4 g. KCN, 86.3 g. (NH₄)₂CO₃, 150 cc. EtOH, and 50 cc. EtOH, the mixture stirred 1.5 hrs., and cooled to room temperature, the EtOH distilled, the residue cooled and filtered, and the filter residue (19 g.) washed with hot C6H₆ and hot MeOH, dissolved in 48 aqueous NaOH, filtered, **repeated**, with acid and **recrystallized** from (CH₂Cl₂)₂ and from aqueous HCONaMe₂ gave 9.0 g. hydantoin derivative, C₁₃H₁₂FenN₂O₂, yellow-brown, m. 192-7°. (decomposition). Barbituric acid (6.4 g.) and 3.0 g. KOAc in 150 cc. glacial AcOH filtered, heated to 95°, treated during 2 min. with 10.7 g. II in portions, cooled slowly to room temperature, and filtered, and the violet residue washed with glacial AcOH and with MeOH gave 13.1 g. (crude) 5-phenylmethylbenzabarbituric acid, did not melt below 260° (sublimed). I (92 g.), 250 cc. Ac₂O, and 20 cc. 85% H₃PO₄ heated 10 min. at 100°, cooled slightly, poured onto ice, allowed to stand overnight, neutralized with 200 g. Na₂CO₃·H₂O, cooled in ice, and filtered, and the residue washed with H₂O, dried, and sublimed at 100° and 1 mm. pressure yielded 81.5 g. acetylcylopentanone(cyclopentanone)iron (VII), orange, m. 85-6° (from heptane). VII (22.8 g.) in 125 cc. absolute EtOH, and 30 g. liquid NH₃ hydrogenated 3 hrs. at 100° and 135 atmospheric pressure over 10 g. Raney Ni, mixed with 2 g. Celite, and filtered, the filtrate poured into 500 cc. cold H₂O and extracted with Et₂O, the extract washed with H₂O, dried, diluted with 1 l. dry Et₂O, and treated with dry HCl, and the pink **precipitate** filtered after 15 min., washed with Et₂O, partially air-dried, and stored with 100 cc. CHCl₃ at room temperature, filtered, and washed with CHCl₃ gave 5.9 g. (crude) pale yellow 1-aminobutyl analog of VII as HCl salt, m. 163-5°. (decomposition) (from 75 cc. absolute EtOH). VII (9.5 g.), 1.9 g. S, and 5.2 cc. morpholine heated 2.5 hrs. at 130° and extracted with hot MeOH, and the extract diluted with H₂O yielded 4.5 g. morpholinomethylcarbonylmethyl analog (VIII) of VII, orange needles, m. 128-5-29° (from C6H₆-hexane and aqueous MeOH). VIII (5.0 g.) in 50 cc. 10% KOH in MeOH refluxed 17 hrs., poured into 800 cc. cold H₂O, and extracted with Et₂O, and the aqueous phase neutralized with concentrated HCl yielded 2.5 g. HOOC₂CH₂ analog (IX) of VII, light yellow needles, m. 150-2°.

(from deoxygenated MeOH); the EtoH extract washed, dried, and evaporated, and the residue **recrystallized** from CGH₆-hexane yielded 0.3 g. [m. 148°] morpholinocarbonylmethyl-analog of VII, yellow needles, m. 148-9°. AlCl₃ (96 g.) in 200 cc. CH₂C₂ treated with 36 g. succinic anhydride, stirred, shaken a few min., treated during 10 min. in 200 cc. CH₂C₂ in small portions heated to 35°, kept 7 hrs. at room temperature, poured onto ice, and filtered, the air-dried residue (46 g.) extracted with 800 cc. boiling H₂O and twice with 150 cc. boiling H₂O, and the combined exts. cooled in ice and filtered yielded 19.7 g. bis [(3-carboxypropionyl)cyclopentadienyliron] (X), m. 164-6°. (decomposition). X (21.3 g.), 1.5 g. H₂SO₄, 200 cc. EtoH, and 250 cc. PhMe slowly distilled during 4 hrs. through a small column, the remaining solution cooled to room temperature, washed with 75 cc. 10% aqueous Na₂CO₃, dried, and evaporated at room temperature, and the residue (23 g.) crystallized from EtOH yielded 20.3 g. di-*tert*-butyl ester of X, orange-brown platelets, m. 134-6°. X (17.1 g.) in 200 cc. EtoH hydrogenated 3 hrs. at 85° and 165° atmospheric pressure over 1 g. RuO₂, the mixture heated on the steam bath and filtered through C, the filtrate evaporated, the residual tan gum extracted with MeOH, the resulting yellow powder **recrystallized** from 50 cc. CHCl₃, and the **crystalline** product (4.3 g.) dissolved in 30 cc. boiling CHCl₃, diluted with 25 cc. MeOH, concentrated to beginning **crystallization**, and cooled gave 3.7 g. bis [(5-oxotetrahydro-2-furyl)cyclopentadienyliron], golden-yellow, m. 165°. (decomposition). Bis [(3-chloropropionyl) cyclopentadienyliron] (XI) (10 g.) and 4.0 g. KCN in 150 cc. EtoH refluxed 4 hrs., filtered, and cooled in ice yielded 4.4 g. bis (3-cyanopropionyl) analog (XII) of XI, orange, m. 133-4°. (from PhMe). XII (8.2 g.) in 100 cc. EtoH hydrogenated at 65° and 135°

atmospheric pressure over Raney Ni, filtered, dried, diluted with 500 cc. Et₂O, and treated with dry HCl, and the precipitate dissolved in 50 cc. H₂O and reprecipitated with aqueous Na₂CO₃ gave 5.3 g. bis [(4-aminobutyl)lanoil of XI, orange, m. 137-8° (from heptane). Bis(acetylcylopentadienyl)iron (30 g.) reduced with 3 g. LiAlH₄ in 150 cc. tetrahydrofuran gave 27.8 g. (crude) bis(1-hydroxyethyl) analog of XI, yellow, m. 69-71° (from hexane). The infrared absorption spectra of II at room temperature and at the transition point are recorded.

10 / Organic Chemistry

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 ACCESSION NUMBER: 1921:7929 HCAPLUS Full-text
 DOCUMENT NUMBER: 15:17929

ORIGINAL REFERENCE NO.: 15:1468a-h
 TITLE: Salts of stannic and plumbeous acids

AUTHOR(S): Zocher, Hans
 SOURCE: Z. anorg. allgem. Chem. (1920); 112, 1-66

DOCUMENT TYPE:

Unavailable

LANGUAGE: English

A study of stannates and plumbates was undertaken with the object of elucidating the so-called semi-colloidal state, with a critical discussion of which the paper opens. The methods for preparing and analyzing alkali stannates are described. Na_2SnO_3 crystallizes from NaOH solns. at ordinary temp., as the trihydrate, $\text{Na}_2\text{Sn}(\text{OH})_6 \cdot 6\text{H}_2\text{O}$; it is practically insol. in 7.0 N NaOH . When precipitated by NaOH at 0° or by alc. at 0°, or ordinary temp., it forms the tetrahydrate, $\text{Na}_2\text{Sn}(\text{OH})_6 \cdot 4\text{H}_2\text{O}$. The solubilities of the two hydrates were determined between -5 and 50°, that of the trihydrate, less soluble salt, which may be regarded as an "anhydride," diminishing with increasing temperature, while that of the tetrahydrate increases. The transition point was difficult to determine by the dilatometric method, but from the solubility curves it appears to be close to -5°. The trihydrate forms a eutectic with water at -11°, the tetrahydrate at -7°. In addition, a third hydrate, approximating to $\text{Na}_2\text{Sn}(\text{OH})_6 \cdot 1.8\text{H}_2\text{O}$, was discovered, which has a transition point to the "anhydride" at 1°. The hydrolysis of Na_2SnO_3 in aqueous solns. was studied by means of potential measurements. In normal solns. the hydrolysis is about 2.7%, and appears to be complete at a dilution of 1/3000 N. In normal solns. of the stannate the extent of hydrolysis gradually increases with time. This phenomenon is discussed in connection with similar observations in the case of other colloidal salts, and of solns. of SnCl_4 . There is no evidence of adsorption of alkali by Na_2SnO_3 under any conditions.

Li stannate forms an "anhydride," $\text{Li}_2\text{Sn}(\text{OH})_6$, isomorphous with the Na salt, and also a dihydrate of this salt, $\text{Li}_2\text{Sn}(\text{OH})_6 \cdot 2\text{H}_2\text{O}$. The solubilities of both salts were determined between 28° and 80°. The two curves are approx. parallel, the solubilities increasing with the temperature; the transition point could not be found, but is probably below 100°. K_2SnO_3 forms an "anhydride," $\text{K}_2\text{Sn}(\text{OH})_6$, and also a mono- and di-hydrate of this salt. The solubilities are greater than those of the Na and Li salts. In the course of a long discussion on the chemical of SnO_2 from the colloidal point of view, the following points are elucidated. The low crystallization velocity of the oxide, resulting from its slight solubility, facilitates its assumption of the colloidal state. The "ageing" of the colloid is accelerated or retarded by various influences, particularly by accompanying salts in solution.

Coagulation, that is, the coalescence of the bounding surfaces of the colloidal particles in solution, is retarded by the electrostatic charge on the particles. The work was also extended to the plumbates. Na Plumbate was prepared by dissolving freshly precipitated PbO_2 in small quantities at a time, in boiling concentrated (8-10 N) NaOH solution. The salt is very sparingly soluble in this solution, and separates in crystals which appear to be isomorphous with Na_2SnO_3 . Although the analyses of the crystals always showed excess of Na_2O , their composition is taken to be $\text{Na}_2\text{Pb}(\text{OH})_6$. Li

(FILE 'HOME' ENTERED AT 18:27:48 ON 14 JUN 2007)

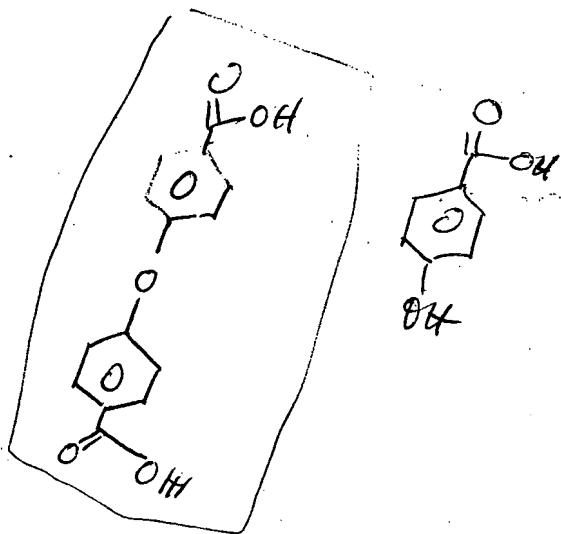
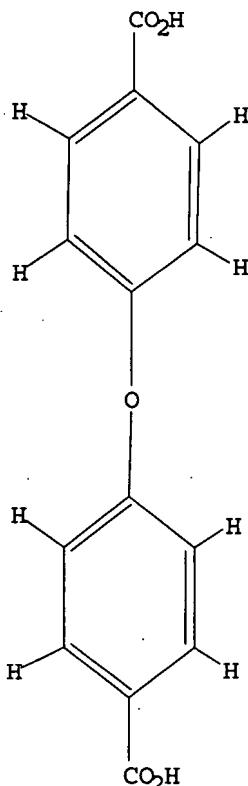
STN Search by
file ex. PNC
6/14/07

FILE 'REGISTRY' ENTERED AT 18:27:58 ON 14 JUN 2007
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L2 STRUCTURE UPLOADED

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L2 HAS NO ANSWERS

L2 STR



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=> s 12

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SAMPLE SCREEN SEARCH COMPLETED - 403 TO ITERATE

100.0% PROCESSED 403 ITERATIONS
SEARCH TIME: 00.00.01

32 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 6856 TO 9264

PROJECTED ANSWERS: 301 TO 979

L3 32 SEA SSS SAM L2

=> s 12 full

FULL SEARCH INITIATED 18:34:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 8087 TO ITERATE

100.0% PROCESSED 8087 ITERATIONS
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581 ANSWERS